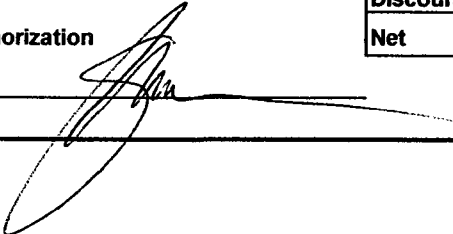


Vendor Name Columbia Inspection

G/L	Detail	Subdetail	Location	Department	Tax	Emp No.	Move No./ PO No.	Amount	Inv No.	Date
305	<b>807</b>		9270	925	0362			<b>\$203</b>	<b>5602163</b>	<b>2/28/2006</b>
									Vendor Number	
									<b>014327008</b>	
									Net 30 days	
Authorization 				Gross Amount				\$203.00	Terms	Due
				Discount					Code	Date
				Net				<b>\$203.00</b>	<b>055</b>	<b>3/28/2006</b>
				Division 483				<b>3</b>	<b>92706030002</b>	

MAR 3 2006


**COLUMBIA INSPECTION, INC.**

 U.S Customs & Border Protection Approved Gaugers  
 Petroleum and Environmental Laboratory  
 Tank Calibrations

**INVOICE**
**Invoice Number:** 5602163

**Invoice Date:** 02/28/06

Page 2 of 2

 071  
 TO: Amos Kamerer  
**Koppers Industries, Inc.**  
 7540 NW St. Helens Road  
 Portland, OR 97210-3663

**Received**

02/22/06

**Client**

Koppers Industries, Inc.

**Project**

Stormwater Tanks

**Work Order(s)**

6022205

**Comments**
**Project Number**

[none]

**PO Number**

NA

QUANTITY	ANALYSIS/DESCRIPTION	MATRIX	UNIT COST	EXTENDED COST
1	O & G, TOTAL (HEM) [1 day]	Water	\$102.00	\$102.00
1	PHENOLS, TOTAL [1 day]	Water	\$93.50	\$93.50
1	SAMPLE PICKUP FEE [1 day]	Water	\$7.50	\$7.50
<b>Invoice Total:</b>				<b>\$203.00</b>

**ORIGINAL**

COLUMBIA INSPECTION, INC 7133 N. Lombard, Portland, OR 97203 Phone:(503) 286-9464 Fax:(503) 286-5355 E-mail:lab@ColumbiaInspection.com

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 current schedule of rates. Liability  
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 invoice.

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**PO Box 83569, St. Johns Station**  
**Portland, OR 97283**

Koppers001003





# CERTIFICATE OF ANALYSIS

CLIENT: Koppers Industries, Inc.  
ATTN: T.J. Turner  
7540 NW St. Helens Road  
Portland OR, 97210-3663

PROJECT NAME: Stormwater Tanks

PHONE: (503) 286-3681  
FAX: (503) 285-2831

SUBMITTED: 02/22/06 09:45

REPORT DATE: 02/27/06 14:42

REPORT NUMBER: 6022205

PAGE: 1 OF 1


CI SAMPLE	CLIENTS ID#	DATE	TIME	MATRIX
6022205-01	Stormwater Tanks	02/22/2006	0800	Water
6022205-02	Stormwater Tanks	02/22/2006	0800	Water

SAMPLE/ ANALYSIS	METHOD	PARAMETER	RESULTS	UNITS	DETECTION LIMIT	TECH	DATE/TIME
6022205-01	SAMPLE ID: Stormwater Tanks						
General Bench Analysis							
O & G, TOTAL (HEM)	EPA 1664	TOTAL OIL AND GREASE	5.8	mg/L	2.0	JRW	02/23/2006 10:36
6022205-02	SAMPLE ID: Stormwater Tanks						
General Bench Analysis							
PHENOLS, TOTAL	EPA 420.1	TOTAL RECOVERABLE PHENOLICS	0.14	mg/L	0.050	DAU	02/23/2006 10:57

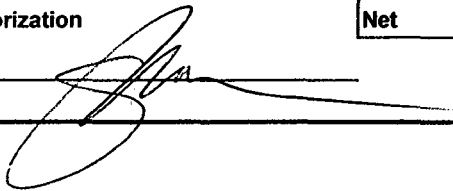
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Richard D. Reid - Laboratory Director

Vendor Name Columbia Inspection

G/L	Detail	Subdetail	Location	Department	Tax	Emp No.	Move No./ PO No.	Amount	Inv No.	Date
305	<b>807</b>		9270	925	0362			<b>\$110</b>	<b>5601141</b>	<b>1/30/2006</b>
									Vendor Number	
									<b>014327008</b>	
									Net 30 days	
Authorization 				Gross Amount				\$109.50	Terms	Due
				Discount					Code	Date
				Net				<b>\$109.50</b>	<b>055</b>	<b>3/2/2006</b>
				Division				483	<b>2</b>	<b>92706020001</b>

PPI 927000030



# COLUMBIA INSPECTION, INC.

U.S Customs & Border Protection Approved Gaugers  
Petroleum and Environmental Laboratory  
Tank Calibrations

**INVOICE**

Invoice Number: 5601141

Invoice Date: 01/30/06

Page 2 of 2

071

TO: T.J. Turner  
**Koppers Industries, Inc.**  
7540 NW St. Helens Road  
Portland, OR 97210-3663

Received

01/26/06

Work Order(s)

6012607

PO Number

NA

Client

Koppers Industries, Inc.

Project

Stormwater Tanks

Project Number

[none]

Comments

QUANTITY	ANALYSIS/DESCRIPTION	MATRIX	UNIT COST	EXTENDED COST
1	O & G, TOTAL (HEM) [1 day]	Water	\$102.00	\$102.00
1	SAMPLE PICKUP FEE [1 day]	Water	\$7.50	\$7.50

Invoice Total: **\$109.50**

**ORIGINAL**

COLUMBIA INSPECTION, INC 7133 N. Lombard, Portland, OR 97203 Phone:(503) 286-9464 Fax:(503) 286-5355 E-mail:lab@ColumbiaInspection..

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Portland, OR 97283

Koppers001006



# CERTIFICATE OF ANALYSIS

CLIENT: Koppers Industries, Inc.  
ATTN: T.J. Turner  
7540 NW St. Helens Road  
Portland OR, 97210-3663

PROJECT NAME: Stormwater Tanks

PHONE: (503) 286-3681  
FAX: (503) 285-2831

SUBMITTED: 01/26/06 14:15

REPORT DATE: 01/27/06 13:39

REPORT NUMBER: 6012607

PAGE: 1 OF 1

CI SAMPLE	CLIENTS ID#	DATE	TIME	MATRIX
6012607-01	Stormwater Tanks	01/26/2006	1245	Water

SAMPLE/ ANALYSIS	METHOD	PARAMETER	RESULTS	UNITS	DETECTION LIMIT	TECH	DATE/TIME
6012607-01	SAMPLE ID: Stormwater Tanks						
General Bench Analysis							
O & G, TOTAL (HEM) EPA 1664		TOTAL OIL AND GREASE	ND	mg/L	2.0	JRW	01/27/2006 12:49

COPY

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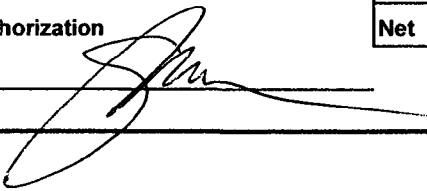
Authorized for Release By:

  
Richard D. Reid - Laboratory Director

COLUMBIA INSPECTION, INC 7133 N. Lombard, Portland, OR 97203 Phone:(503) 286-9464 Fax:(503) 286-5355 E-mail:lab@ColumbiaInspection.com

Koppers001007

Vendor Name Columbia Inspection

G/L	Detail	Subdetail	Location	Department	Tax	Emp No.	Move No./ PO No.	Amount	Inv No.	Date
305	<b>807</b>		9270	925	0362			<b>\$110</b>	<b>5601160</b>	<b>1/31/2006</b>
									<b>Vendor Number</b>	
									<b>014327008</b>	
									<b>Net 30 days</b>	
<b>Authorization</b> 				<b>Gross Amount</b>					<b>\$109.50</b>	<b>Terms</b>
				<b>Discount</b>						<b>Code</b>
				<b>Net</b>					<b>\$109.50</b>	<b>055</b>
										<b>Date</b>
							<b>Division</b> 483		<b>2</b>	<b>92706020002</b>

PPI 9270 00031

FEB. 3 2006



# COLUMBIA INSPECTION, INC.

U.S Customs & Border Protection Approved Gaugers  
Petroleum and Environmental Laboratory  
Tank Calibrations

**INVOICE**

**Invoice Number:** 5601160

**Invoice Date:** 01/31/06

Page 2 of 2

071

TO: T.J. Turner  
**Koppers Industries, Inc.**  
7540 NW St. Helens Road  
Portland, OR 97210-3663

**Received**

01/30/06

**Work Order(s)**

6013001

**PO Number**

NA

**Client**

Koppers Industries, Inc.

**Project**

Stormwater Tanks

**Project Number**

[none]

**Comments**

QUANTITY	ANALYSIS/DESCRIPTION	MATRIX	UNIT COST	EXTENDED COST
1	O & G, TOTAL (HEM) [1 day]	Water	\$102.00	\$102.00
1	SAMPLE PICKUP FEE [1 day]	Water	\$7.50	\$7.50

**Invoice Total: \$109.50**

***ORIGINAL***

COLUMBIA INSPECTION, INC. 7133 N. Lombard, Portland, OR 97203 Phone: (503) 286-9464 Fax: (503) 286-5355 E-mail: lab@ColumbiaInspection.com

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Portland, OR 97283

Koppers001009



# CERTIFICATE OF ANALYSIS

CLIENT: Koppers Industries, Inc.  
ATTN: T.J. Turner  
7540 NW St. Helens Road  
Portland OR, 97210-3663

PROJECT NAME: Stormwater Tanks

PHONE: (503) 286-3681  
FAX: (503) 285-2831

SUBMITTED: 01/30/06 10:32

REPORT DATE: 01/31/06 14:26

REPORT NUMBER: 6013001


PAGE: 1 OF 1

CI SAMPLE	CLIENTS ID#	DATE	TIME	MATRIX			
6013001-01	Stormwater Tanks	01/30/2006	1000	Water			
SAMPLE/ ANALYSIS	METHOD	PARAMETER	RESULTS	UNITS	DETECTION LIMIT	TECH	DATE/TIME
6013001-01	SAMPLE ID: Stormwater Tanks						
General Bench Analysis							
O & G, TOTAL (HEM) EPA 1664		TOTAL OIL AND GREASE	ND	mg/L	2.0	JRW	01/30/2006 14:42

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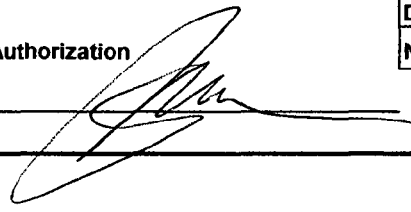
Authorized for Release By:

  
Richard D. Reid - Laboratory Director

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Koppers001010

Vendor Name Columbia Inspection

G/L	Detail	Subdetail	Location	Department	Tax	Emp No.	Move No./ PO No.	Amount	Inv No.	Date
305	<b>807</b>		9270	925	0362			<b>\$110</b>	<b>5601096</b>	<b>1/20/2006</b>
									Vendor Number	
									<b>014327008</b>	
									Net 30 days	
Authorization 				Gross Amount				\$109.50	Terms	Due
				Discount					Code	Date
				Net				<b>\$109.50</b>	<b>055</b>	<b>2/20/2006</b>
				Division 483				<b>1</b>	<b>92706010022</b>	

PPI 927000004





# COLUMBIA INSPECTION, INC.

U.S Customs & Border Protection Approved Gaugers  
Petroleum and Environmental Laboratory  
Tank Calibrations

**INVOICE**

**Invoice Number:** 5601096

**Invoice Date:** 01/20/06

Page 2 of 2

071  
TO: T.J. Turner  
**Koppers Industries, Inc.**  
7540 NW St. Helens Road  
Portland, OR 97210-3663

Received  
01/17/06

Client  
Koppers Industries, Inc.

Project  
Stormwater Tanks

Work Order(s)  
6011704

Comments

Project Number  
[none]

PO Number  
NA

QUANTITY	ANALYSIS/DESCRIPTION	MATRIX	UNIT COST	EXTENDED COST
1	O & G, TOTAL (HEM) [1 day]	Water	\$102.00	\$102.00
1	SAMPLE PICKUP FEE [1 day]	Water	\$7.50	\$7.50

**Invoice Total: \$109.50**

*ORIGINAL*

COLUMBIA INSPECTION, INC 7133 N. Lombard, Portland, OR 97203 Phone:(503) 286-9464 Fax:(503) 286-5355 E-mail:lab@ColumbiaInspection.com

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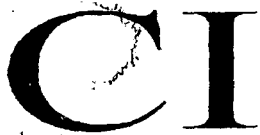
**Terms - Net 15 Days**

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Portland, OR 97283

Koppers001012



# CERTIFICATE OF ANALYSIS

CLIENT: Koppers Industries, Inc.  
ATTN: T.J. Turner  
7540 NW St. Helens Road  
Portland OR, 97210-3663

PROJECT NAME: Stormwater Tanks

PHONE: (503) 286-3681  
FAX: (503) 285-2831

SUBMITTED: 01/17/06 15:29

REPORT DATE: 01/20/06 07:38

REPORT NUMBER: 6011704


PAGE: 1 OF 1

CI SAMPLE	CLIENTS ID#	DATE	TIME	MATRIX
6011704-01	Stormwater Tanks	01/17/2006	0700	Water

SAMPLE/ ANALYSIS	METHOD	PARAMETER	RESULTS	UNITS	DETECTION LIMIT	TECH	DATE/TIME
6011704-01	SAMPLE ID: Stormwater Tanks						
General Bench Analysis							
O & G, TOTAL (HEM) EPA 1664		TOTAL OIL AND GREASE	ND	mg/L	2.0	JRW	01/18/2006 13:14

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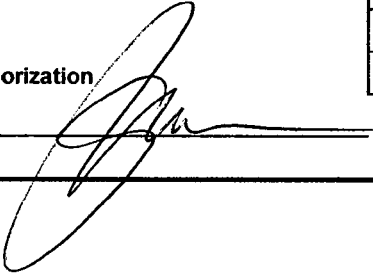
Authorized for Release By:

  
Richard D. Reid - Laboratory Director

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Koppers001013

Vendor Name Columbia Inspection

G/L	Detail	Subdetail	Location	Department	Tax	Emp No.	Move No./ PO No.	Amount	Inv No.	Date
305	<b>807</b>		9270	925	0362			<b>\$110</b>	<b>5601034</b>	<b>1/12/2006</b>
									<b>Vendor Number</b>	
									<b>014327008</b>	
									<b>Net 30 days</b>	
<b>Authorization</b> 				<b>Gross Amount</b>				\$109.50	<b>Terms</b>	<b>Due</b>
				<b>Discount</b>					<b>Code</b>	<b>Date</b>
				<b>Net</b>				<b>\$109.50</b>	<b>055</b>	<b>2/12/2006</b>
								<b>Division</b> 483	<b>1</b>	<b>92706010023</b>

PRI 927000005

JAN 17 2006



# COLUMBIA INSPECTION, INC.

U.S Customs & Border Protection Approved Gaugers  
Petroleum and Environmental Laboratory  
Tank Calibrations

**INVOICE**

Invoice Number: 5601034

Invoice Date: 01/12/06

Page 2 of 2

071  
TO: T.J. Turner  
**Koppers Industries, Inc.**  
7540 NW St. Helens Road  
Portland, OR 97210-3663

Received  
01/10/06

Client  
Koppers Industries, Inc.

Project  
Stormwater Tanks

Work Order(s)  
6011008

Comments

Project Number  
[none]

PO Number  
NA

QUANTITY	ANALYSIS/DESCRIPTION	MATRIX	UNIT COST	EXTENDED COST
1	O & G, TOTAL (HEM) [1 day]	Water	\$102.00	\$102.00
1	SAMPLE PICKUP FEE [1 day]	Water	\$7.50	\$7.50

Invoice Total: **\$109.50**

*ORIGINAL*

COLUMBIA INSPECTION, INC 7133 N. Lombard, Portland, OR 97203 Phone:(503) 286-9464 Fax:(503) 286-5355 E-mail:lab@ColumbiaInspection.

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PO Box 83569, St. Johns Station  
Portland, OR 97283

Koppers001015



# CERTIFICATE OF ANALYSIS

CLIENT: Koppers Industries, Inc.  
ATTN: T.J. Turner  
7540 NW St. Helens Road  
Portland OR, 97210-3663

PROJECT NAME: Stormwater Tanks

PHONE: (503) 286-3681  
FAX: (503) 285-2831

SUBMITTED: 01/10/06 14:38

REPORT DATE: 01/11/06 17:39

REPORT NUMBER: 6011008

PAGE: 1 OF 1

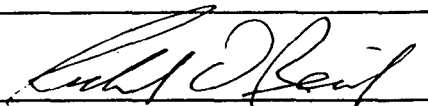
CI SAMPLE	CLIENTS ID#	DATE	TIME	MATRIX
6011008-01	Stormwater Tanks	01/10/2006	1045	Water

SAMPLE/ ANALYSIS	METHOD	PARAMETER	RESULTS	UNITS	DETECTION LIMIT	TECH	DATE/TIME
6011008-01	SAMPLE ID: Stormwater Tanks						
General Bench Analysis							
O & G, TOTAL (HEM) EPA 1664		TOTAL OIL AND GREASE	ND	mg/L	2.0	JRW	01/11/2006 16:02

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Richard D. Reid - Laboratory Director

COLUMBIA INSPECTION, INC 7133 N. Lombard, Portland, OR 97203 Phone:(503) 286-9464 Fax:(503) 286-5355 E-mail:lab@ColumbiaInspection.com

Koppers001016

**Vendor Name** Columbia Inspection

G/L	Detail	Subdetail	Location	Department	Tax	Emp No.	Move No./ PO No.	Amount	Inv No.	Date
305	807		9270	925	0362			\$403	5601006	1/6/2006
									Vendor Number	
									014327008	
									Net 30 days	
				Gross Amount				\$402.76	Terms	Due
				Discount					Code	Date
				Net				\$402.76	055	2/6/2006
Authorization 							Division			
							483	1		92706010013

PP1927000010



# COLUMBIA INSPECTION, INC.

JAN 10 2006

U.S Customs & Border Protection Approved Gaugers  
Petroleum and Environmental Laboratory  
Tank Calibrations

INVOICE

Invoice Number: 5601006

Invoice Date: 01/06/06

Page 2 of 2

071  
TO: T.J. Turner  
**Koppers Industries, Inc.**  
7540 NW St. Helens Road  
Portland, OR 97210-3663

Received  
01/03/06

Client  
Koppers Industries, Inc.

Project  
Stormwater Tanks

Work Order(s)  
6010301

Comments

Project Number  
[none]

PO Number  
NA

QUANTITY	ANALYSIS/DESCRIPTION	MATRIX	UNIT COST	EXTENDED COST
1	O & G, TOTAL (HEM) [1 day]	Water	\$76.50	\$76.50
1	PHENOLS, TOTAL [1 day]	Water	\$70.13	\$70.13
1	PNAH 625 [1 day]	Water	\$248.63	\$248.63
1	SAMPLE PICKUP FEE [1 day]	Water	\$7.50	\$7.50

Invoice Total: \$402.76

ORIGINAL

COLUMBIA INSPECTION, INC 7133 N. Lombard, Portland, OR 97203 Phone:(503) 286-9464 Fax:(503) 286-5355 E-mail:lab@ColumbiaInspection.

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**Terms - Net 15 Days**

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**Columbia Inspection, Inc.**  
PO Box 83569, St. Johns Station  
Portland, OR 97283

Koppers001018



# CERTIFICATE OF ANALYSIS

CLIENT: Koppers Industries, Inc.  
ATTN: T.J. Turner  
7540 NW St. Helens Road  
Portland OR, 97210-3663

PROJECT NAME: Stormwater Tanks

PHONE: (503) 286-3681  
FAX: (503) 285-2831

SUBMITTED: 01/03/06 16:15

REPORT DATE: 01/05/06 07:50

REPORT NUMBER: 6010301

PAGE: 1 OF 1

CI SAMPLE	CLIENTS ID#	DATE	TIME	MATRIX
6010301-01	Stormwater Tanks	01/02/2006	1500	Water

SAMPLE/ ANALYSIS	METHOD	PARAMETER	RESULTS	UNITS	DETECTION LIMIT	TECH	DATE/TIME
6010301-01	SAMPLE ID: Stormwater Tanks						
General Bench Analysis							
O & G, TOTAL (HEM)	EPA 1664	TOTAL OIL AND GREASE	2.6	mg/L	2.0	JRW	01/04/2006 11:30
PHENOLS, TOTAL	EPA 420.1	TOTAL RECOVERABLE PHENOLICS	0.13	mg/L	0.050	MES	01/04/2006 16:16

## Semi-Volatile Organics by Gas Chromatography/Mass Spectroscopy

PNAH 625	EPA 625 (SIM)	ACENAPHTHENE	8.3	ug/L	0.06	DM	01/04/2006 14:15
		ACENAPHTHYLENE	5.1	ug/L	0.06		
		ANTHRACENE	ND	ug/L	0.06		
		BENZO(a)ANTHRACENE	ND	ug/L	0.06		
		BENZO(a)PYRENE	ND	ug/L	0.06		
		BENZO(b)FLUORANTHENE	ND	ug/L	0.06		
		BENZO(g,h,i)PERYLENE	ND	ug/L	0.06		
		BENZO(k)FLUORANTHENE	ND	ug/L	0.06		
		CHRYSENE	ND	ug/L	0.06		
		DIBENZO(a,h)ANTHRACENE	ND	ug/L	0.06		
		FLUORANTHENE	2.8	ug/L	0.06		
		FLUORENE	ND	ug/L	0.06		
		INDENO(1,2,3-cd)PYRENE	ND	ug/L	0.06		
		NAPHTHALENE	51.5	ug/L	0.06		
		PHENANTHRENE	ND	ug/L	0.06		
		PYRENE	2.0	ug/L	0.06		
		Surrogate: 2-Fluorobiphenyl	71.3 %	%RECOVERY	50-150		
		Surrogate: Nitrobenzene-D5	57.0 %	%RECOVERY	50-150		
		Surrogate: p-terphenyl-D14	88.0 %	%RECOVERY	50-150		

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Richard D. Reid - Laboratory Director

COLUMBIA INSPECTION, INC 7133 N. Lombard, Portland, OR 97203 Phone:(503) 286-9464 Fax:(503) 286-5355 E-mail:lab@ColumbiaInspection.com

Koppers001019



**Vendor Name** Columbia Inspection

G/L	Detail	Subdetail	Location	Department	Tax	Emp No.	Move No./ PO No.	Amount	Inv No.	Date
305	807		9270	925	0362			\$84	5512148	12/31/2005
									Vendor Number	
									014327008	
									Net 30 days	
				Gross Amount	\$84.00				Terms	Due
				Discount					Code	Date
				Net	\$84.00				055	1/31/2006
Authorization 							Division 483		1	92706010008

PPI 9270 000 20

JAN 5 2006



# COLUMBIA INSPECTION, INC.

U.S Customs & Border Protection Approved Gaugers  
Petroleum and Environmental Laboratory  
Tank Calibrations

**INVOICE**

Invoice Number: 5512148

Invoice Date: 12/31/05

Page 2 of 2

071  
TO: T.J. Turner  
**Koppers Industries, Inc.**  
7540 NW St. Helens Road  
Portland, OR 97210-3663

Received  
12/27/05

Client  
Koppers Industries, Inc.

Project  
Stormwater Tanks

Work Order(s)  
5122702

Comments

Project Number  
[none]

PO Number  
NA

QUANTITY	ANALYSIS/DESCRIPTION	MATRIX	UNIT COST	EXTENDED COST
1	O & G, TOTAL (HEM) [1 day]	Water	\$76.50	\$76.50
1	SAMPLE PICKUP FEE [5 day]	Water	\$7.50	\$7.50

Invoice Total: **\$84.00**

*ORIGINAL*

COLUMBIA INSPECTION, INC 7133 N. Lombard, Portland, OR 97203 Phone:(503) 286-9464 Fax:(503) 286-5355 E-mail:lab@ColumbiaInspection.

All work performed is subject to the terms and conditions of our current schedule of rates. Liability is limited to the amount of this invoice.

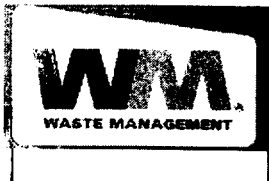
**Terms - Net 15 Days**

*Thank you for doing business with Columbia Inspection*

Please state invoice number and remit to:

**Columbia Inspection, Inc.**  
PO Box 83569, St. Johns Station  
Portland, OR 97283

Koppers001021



From Everyday Collection to Environmental Protection, look to **The NEW Waste M**

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- Payment methods
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☐ **Logout**

H

### Payment Details

Reference ID: **30324063052**

Status: **Paid**

#### Payment Transaction Information

Payment date: **12/05/2006**  
(mm/dd/yyyy)

Creation date: **12/02/2006 01:00:01 (CST)**  
(mm/dd/yyyy)

Submitted by: **System**

Authorization number: **099047**

#### Payment Information

WM ezPay Account ID or  
New Account Number: **00004-26297-55008**

Original Account Number: **574-0001806-1574-2**

Account Type: **Business**

Payment Type: **Invoice**

Payment Amount **\$154.59**

Payment Amount Fees **\$0.00**

---

Total Payment Amount **\$154.59**

#### Memo:

Payment method: **Credit Card**

#### Contact Information

Business name: **KOPPERS INDUSTRY INC**

Contact name: **Amos Kamerer**

Address: **7540 NW ST HELENS RD**

City: **PORTLAND**

State/Province: **Oregon**

ZIP/Postal code: **972103663**

Country: **United States**

Daytime phone number: **(503) 286-3681**

E-mail address: **kamereras@koppers.com**

**Payment Method - Credit Card**

Card type: VISA  
Card number: \*\*\*\*\*3658  
Expiration date: 03/2006  
Name on card: T. J. Turner

**Credit Card Billing Information**

First name: Koppers Inc  
Middle initial:  
Last name: Kameroner  
Address: 7540 NW ST HELENS RD  
City: PORTLAND  
State/Province: Oregon  
ZIP/Postal code: 972103663  
Country: United States





WASTE MANAGEMENT OF OREGON  
7227 NE 55TH AVE  
PORTLAND OR 97218

(503) 249-8078  
(503) 331-2219 FAX

## INVOICE

INSERT 1

Customer:  
Account Number  
Invoice Date:  
Invoice Number  
Due Date:  
WM ezPay Account

Current Invoice  
**154.3**

### Account Summary

Description	Amount
Previous Balance	154.88
Total Credits and Adjustments	0.00
Total Payments Received	154.88-
Total Current Charges	154.38
<b>Total Amount Due</b>	<b>154.38</b>
<b>Total Amount Past Due</b>	<b>0.00</b>

Please see auto  
remittance below

Service Period: 10/1/06 - 10/31/06

Description	Amount
Commercial	154.38
<b>Total Current Charges</b>	<b>154.38</b>

Want to pay this?  
learn more about  
secure payment.

If full payment of the invoiced amount is not received within 30 days of the invoice date, you will be charged a monthly late fee of 1.5% of the unpaid amount, with a minimum monthly charge of \$3.00, or such lesser late fee allowed under applicable law, regulation or contract.

Current Due	Over 30	Over 60	Over 90	Over 120
154.38	0.00	0.00	0.00	0.00

**We keep**



NASCAR is a registered trademark of the National Association for Stock Car Auto Racing, Inc.



WASTE MANAGEMENT OF OREGON  
7227 NE 55TH AVE  
PORTLAND OR 97218

(503) 249-8078  
(503) 331-2219 FAX

Learn how we Think Green at  
[www.wm.com/thinkgreen](http://www.wm.com/thinkgreen)

### Payment Coupon

Please detach and enclose this portion with your  
payment - do not send cash.

Your Account

574-00018

Invoice Date

Your Invoice

11/01/2006

59949

Due Date

Total Due

Amount

Net 30 days

154.38

\*\*\* DO NOT PAY-AUTOMATIC PAYMENT WILL BE PROCESSED  
Your credit card will be charged \$154.38. An older balance remains and may require

15745740001806059949160000001543800000015438 7

I1574C19

KOPPERS INDUSTRY INC  
7540 NW ST HELENS RD  
PORTLAND OR 97210-3663

Please make  
Check  
Payable To:

WASTE MANAGEMENT  
PO BOX 78251  
PHOENIX AZ 85062-5151

*From everyday collection to environmental protection,  
Think Green.® Think Waste Management.*

FOR CHANGE OF ADDRESS OR ANY SERVICE ISSUES CONTACT NUMBER ABOVE

## Kamerer Amos

---

**From:** WMezPayNotice@wm.com  
**Sent:** Sunday, October 29, 2006 12:31 AM  
**To:** Kamerer Amos  
**Subject:** KOPPERS INDUSTRY INC Amos Kamerer, 00004-26297-55008

Hello KOPPERS INDUSTRY INC Amos Kamerer,

Your most recent Waste Management invoice prepared on 10/29/2006 is now available for online viewing at WM ezPay.

If you are enrolled for recurring payments, a payment in the amount of \$\$154.38 will be processed on 11/01/2006 or four days after this notice, whichever occurs later.

You will receive an email confirmation of this payment or an email notification should there be a problem with this payment.

For your convenience, you may access your Waste Management account by using this link - <http://wmgcc.inetbiller.com> and entering your WM ezPay User ID and Password.

If your computer is not configured in html format, you may not be able to use this link to access the Waste Management website. Instead, you will need to visit the [www.wm.com](http://www.wm.com) website and follow the log-on instructions for enrolled customers.

Please do not respond to this email, as this is not a monitored site. For questions regarding the payment process, please contact the Waste Management Service Center at 866-834-2080 and select the option for WM ezPay.

For service or billing issues, please contact your local Waste Management office at the number provided on your invoice.

Thank you,  
Waste Management Service Center

Use of WM ezPay constitutes acceptance of Waste Management's WM ezPay Terms and Conditions which may be reviewed at [www.wm.com](http://www.wm.com)



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Help with this page

**Payment Details**

Reference ID: **26283190052**

Status: **Paid**

**Payment Transaction Information**

Payment date: 08/02/2006

(mm/dd/yyyy)

Creation date: 07/30/2006 00:44:41 (CDT)

(mm/dd/yyyy)

Submitted by: **System**

Authorization number: 063176

**Payment Information**

WM ezPay Account ID: 00004-26297-55008

Account number: 574-0001806-1574-2

Account Type: **Business**

Payment Type: **Invoice**

Payment Amount **\$157.38**

Payment Amount Fees **\$0.00**

---

Total Payment Amount **\$157.38**

**Memo:**

Payment method: **Credit Card**

**Contact Information**

Business name: **KOPPERS INDUSTRY INC**

Contact name: **Amos Kamerer**

Address: **7540 NW ST HELENS RD**

City: **PORTLAND**

State/Province: **Oregon**

ZIP/Postal code: **972103663**

Country: **United States**

|

Daytime phone number: **(503) 286-3681**

|

E-mail address: **kamereras@koppers.com**

**Payment Method - Credit Card**

Card type: **VISA**

*ON EZPAY*



Card number: \*\*\*\*\*3658  
Expiration date: 03/2006  
Name on card: T. J. Turner

**Credit Card Billing Information**

First name: Koppers Inc  
Middle initial:  
Last name: Kameron  
Address: 7540 NW ST HELENS RD  
City: PORTLAND  
State/Province: Oregon  
ZIP/Postal code: 972103663  
Country: United States



**Columbia Inspection, Inc.**



# CERTIFICATE OF ANALYSIS

CLIENT: Koppers Industries, Inc.  
ATTN: T.J. Turner  
7540 NW St. Helens Road  
Portland OR, 97210-3663

PROJECT NAME: Stormwater Tanks

PHONE: (503) 286-3681

FAX: (503) 285-2831

SUBMITTED: 01/23/07 14:55

REPORT DATE: 01/24/07 15:36

REPORT NUMBER: 7012307

PAGE: 1 OF 1

CI SAMPLE	CLIENTS ID#	DATE	TIME	MATRIX
7012307-01	Stormwater Tanks	01/23/2007	0800	Water

SAMPLE/ ANALYSIS	METHOD	PARAMETER	RESULTS	UNITS	DETECTION LIMIT	TECH	DATE/TIME
7012307-01	SAMPLE ID: Stormwater Tanks						
General Bench Analysis							
O & G, TOTAL (HEM) EPA 1664		TOTAL OIL AND GREASE	3.0	mg/L	2.0	JRW	01/24/2007 15:05

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*Charles Morrow*

Charles Morrow - Laboratory Director

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Koppers001030



# CERTIFICATE OF ANALYSIS

CLIENT: Koppers Industries, Inc.  
ATTN: T.J. Turner  
7540 NW St. Helens Road  
Portland OR, 97210-3663

PROJECT NAME: Stormwater Tanks

PHONE: (503) 286-3681  
FAX: (503) 285-2831

SUBMITTED: 01/23/07 14:55

REPORT DATE: 01/24/07 15:36

REPORT NUMBER: 7012307

PAGE: 1 OF 1

CI SAMPLE	CLIENTS ID#	DATE	TIME	MATRIX
7012307-01	Stormwater Tanks	01/23/2007	0800	Water

SAMPLE/ ANALYSIS	METHOD	PARAMETER	RESULTS	UNITS	DETECTION LIMIT	TECH	DATE/TIME
7012307-01	SAMPLE ID: Stormwater Tanks						
General Bench Analysis							
O & G, TOTAL (HEM)	EPA 1664	TOTAL OIL AND GREASE	3.0	mg/L	2.0	JRW	01/24/2007 15:05

COTV

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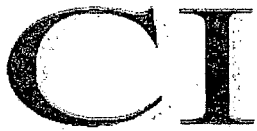
Authorized for Release By:

*Charles Morrow*

Charles Morrow - Laboratory Director

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Koppers001031



# CERTIFICATE OF ANALYSIS

CLIENT: Koppers Industries, Inc.  
ATTN: T.J. Turner  
7540 NW St. Helens Road  
Portland OR, 97210-3663

PROJECT NAME: Stormwater Tanks

PHONE: (503) 286-3681  
FAX: (503) 285-2831

SUBMITTED: 01/08/07 13:37

REPORT DATE: 01/09/07 11:36

REPORT NUMBER: 7010805

PAGE: 1 OF 1

CI SAMPLE	CLIENTS ID#	DATE	TIME	MATRIX
7010805-01	Stormwater Tank	01/08/2007	0800	Water

SAMPLE/ ANALYSIS	METHOD	PARAMETER	RESULTS	UNITS	DETECTION LIMIT	TECH	DATE/TIME
7010805-01	SAMPLE ID: Stormwater Tank						
General Bench Analysis							
O & G, TOTAL (HEM) EPA 1664		TOTAL OIL AND GREASE	ND	mg/L	2.0	JRW	01/09/2007 11:25

JAN 17 2007

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Charles Morrow - Laboratory Director

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Koppers001032



# CERTIFICATE OF ANALYSIS

CLIENT: Koppers Industries, Inc.  
ATTN: T.J. Turner  
7540 NW St. Helens Road  
Portland OR, 97210-3663

PROJECT NAME: Stormwater Tanks

PHONE: (503) 286-3681

FAX: (503) 285-2831

SUBMITTED: 01/08/07 13:37

REPORT DATE: 01/09/07 11:36

REPORT NUMBER: 7010805

PAGE: 1 OF 1

CI SAMPLE	CLIENTS ID#	DATE	TIME	MATRIX			
7010805-01	Stormwater Tank	01/08/2007	0800	Water			
SAMPLE/ ANALYSIS	METHOD	PARAMETER	RESULTS	UNITS	DETECTION LIMIT	TECH	DATE/TIME
7010805-01	SAMPLE ID: Stormwater Tank						
General Bench Analysis							
O & G, TOTAL (HEM) EPA 1664		TOTAL OIL AND GREASE	ND	mg/L	2.0	JRW	01/09/2007 11:25

JAN 17 2007

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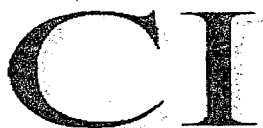
Authorized for Release By:

*Charles R. Morrow*

Charles Morrow - Laboratory Director

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Koppers001033



# CERTIFICATE OF ANALYSIS

CLIENT: Koppers Industries, Inc.  
ATTN: T.J. Turner  
7540 NW St. Helens Road  
Portland OR, 97210-3663

PROJECT NAME: Stormwater Tanks

PHONE: (503) 286-3681  
FAX: (503) 285-2831

SUBMITTED: 01/03/07 14:30

REPORT DATE: 01/04/07 16:44

REPORT NUMBER: 7010306

PAGE: 1 OF 1

CI SAMPLE	CLIENTS ID#	DATE	TIME	MATRIX
7010306-01	Stormwater Tanks	01/03/2007	0800	Water

SAMPLE/ ANALYSIS	METHOD	PARAMETER	RESULTS	UNITS	DETECTION LIMIT	TECH	DATE/TIME
7010306-01	SAMPLE ID: Stormwater Tanks						
General Bench Analysis							
O & G, TOTAL (HEM)	EPA 1664	TOTAL OIL AND GREASE	ND	mg/L	2.0	JRW	01/04/2007 12:58
PHENOLS, TOTAL	EPA 420.1	TOTAL RECOVERABLE PHENOLICS	0.14	mg/L	0.050	DAU	01/04/2007 14:53

## Semi-Volatile Organics by Gas Chromatography/Mass Spectroscopy

PNAH 625	EPA 625 (SIM)	ACENAPHTHENE	7.4	ug/L	0.05	DM	01/04/2007 12:10
		ACENAPHTHYLENE	8.0	ug/L	0.05		
		ANTHRACENE	1.0	ug/L	0.05		
		BENZO(a)ANTHRACENE	2.2	ug/L	0.05		
		BENZO(a)PYRENE	2.4	ug/L	0.05		
		BENZO(b)FLUORANTHENE	1.9	ug/L	0.05		
		BENZO(g,h,i)PERYLENE	2.2	ug/L	0.05		
		BENZO(k)FLUORANTHENE	2.5	ug/L	0.05		
		CHRYSENE	2.6	ug/L	0.05		
		DIBENZO(a,h)ANTHRACENE	0.6	ug/L	0.05		
		FLUORANTHENE	4.5	ug/L	0.05		
		FLUORENE	5.0	ug/L	0.05		
		INDENO(1,2,3-cd)PYRENE	2.6	ug/L	0.05		
		NAPHTHALENE	210	ug/L	0.05		
		PHENANTHRENE	2.9	ug/L	0.05		
		PYRENE	3.8	ug/L	0.05		
		Surrogate: 2-Fluorobiphenyl	82.4 %	%RECOVERY	50-150		
		Surrogate: Nitrobenzene-D5	78.0 %	%RECOVERY	50-150		
		Surrogate: p-terphenyl-D14	90.0 %	%RECOVERY	50-150		

ORIGINAL

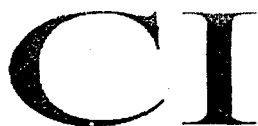
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Charles Morrow - Laboratory Director

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Koppers001034



# CERTIFICATE OF ANALYSIS

CLIENT: Koppers Industries, Inc.  
ATTN: T.J. Turner  
7540 NW St. Helens Road  
Portland OR, 97210-3663

PROJECT NAME: Stormwater Tanks

PHONE: (503) 286-3681  
FAX: (503) 285-2831

SUBMITTED: 01/03/07 14:30

REPORT DATE: 01/04/07 16:44

REPORT NUMBER: 7010306

PAGE: 1 OF 1

CI SAMPLE	CLIENTS ID#	DATE	TIME	MATRIX
7010306-01	Stormwater Tanks	01/03/2007	0800	Water

SAMPLE/ ANALYSIS	METHOD	PARAMETER	RESULTS	UNITS	DETECTION LIMIT	TECH	DATE/TIME
7010306-01	SAMPLE ID: Stormwater Tanks						
General Bench Analysis							
O & G, TOTAL (HEM)	EPA 1664	TOTAL OIL AND GREASE	ND	mg/L	2.0	JRW	01/04/2007 12:58
PHENOLS, TOTAL	EPA 420.1	TOTAL RECOVERABLE PHENOLICS	0.14	mg/L	0.050	DAU	01/04/2007 14:53
Semi-Volatile Organics by Gas Chromatography/Mass Spectroscopy							
PNAH 625	EPA 625 (SIM)	ACENAPHTHENE	7.4	ug/L	0.05	DM	01/04/2007 12:10
		ACENAPHTHYLENE	8.0	ug/L	0.05		
		ANTHRACENE	1.0	ug/L	0.05		
		BENZO(a)ANTHRACENE	2.2	ug/L	0.05		
		BENZO(a)PYRENE	2.4	ug/L	0.05		
		BENZO(b)FLUORANTHENE	1.9	ug/L	0.05		
		BENZO(g,h,i)PERYLENE	2.2	ug/L	0.05		
		BENZO(k)FLUORANTHENE	2.5	ug/L	0.05		
		CHRYSENE	2.6	ug/L	0.05		
		DIBENZO(a,h)ANTHRACENE	0.6	ug/L	0.05		
		FLUORANTHENE	4.5	ug/L	0.05		
		FLUORENE	5.0	ug/L	0.05		
		INDENO(1,2,3-cd)PYRENE	2.6	ug/L	0.05		
		NAPHTHALENE	210	ug/L	0.05		
		PHENANTHRENE	2.9	ug/L	0.05		
		PYRENE	3.8	ug/L	0.05		
		Surrogate: 2-Fluorobiphenyl	82.4 %	%RECOVERY	50-150		
		Surrogate: Nitrobenzene-D5	78.0 %	%RECOVERY	50-150		
		Surrogate: p-terphenyl-D14	90.0 %	%RECOVERY	50-150		

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Charles Morrow - Laboratory Director

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Koppers001035





## COLUMBIA INSPECTION, INC.

U.S Customs & Border Protection Approved Gaugers  
Petroleum and Environmental Laboratory  
Tank Calibrations

**Invoice Number:** 5701014

**Client**

Koppers Industries, Inc.

**Work Order(s)**

7010306

**Project Number**

[none]

**PO Number**

NA

071

TO: T.J. Turner  
**Koppers Industries, Inc.**  
7540 NW St. Helens Road  
Portland, OR 97210-3663

# COLUMBIA INSPECTION, INC.

7133 N. Lombard Street-Portland, OR 97203-Telephone: (503)286-9464-Fax: (503)285-7831

November 18, 2005

L051024A.ALL

Koppers Industries, Inc.  
Attn: T.J. Turney  
7540 NW St. Helens Road  
Portland, OR 97210-3663

RE: Courier Services

We've all been hit terribly hard by the increases in gasoline costs over the past year. It has hit our courier department to the extent that the company has been forced to make a change.

On December 1, 2005, Columbia Inspection will begin charging a small fee for courier pickup of samples. A fee of \$7.50 will be added to final invoices. Projects where CI collects the samples and charges a sampling fee will not be affected by this change.

We feel that this move must take place in order to maintain our current level of service. Thanks for your understanding.

Sincerely,



Richard D. Reid  
Laboratory Director

# COLUMBIA INSPECTION, INC.

---

7133 N. Lombard Street • Portland, OR 97203 • Telephone: (503) 286-9464 • Fax: (503) 285-7831

May 27, 2005

L050527H.Koppers

Koppers Industries  
ATTN: T.J. Turner  
7540 NW St. Helens Road  
Portland, OR 97210-3663

SUBJECT: RUSH Fees For Rapid Turnaround of Laboratory Testing

Dear TJ:

For many years, we've attempted to provide you, our "preferred" clients, with that extra bit of service where we would perform RUSH turnaround of reports for a zero or minimal surcharge.

It has become quite obvious that the prices charged for these services have not come close to covering the cost of picking up the samples and performing the tests. With the increased levels of quality assurance documentation required by regulatory agencies, a single RUSH test will require support testing which more than doubles the cost of doing the work. I have been told by company management that our laboratory surcharges must do a better job of covering these additional costs. By doing so, we'll be able to maintain our current test prices and maintain or even improve our level of quality.

Therefore, Columbia Inspection will be changing RUSH surcharge rates. We feel that this policy will fall into line with other local laboratories. Beginning June 1, 2005, all RUSH tests (except for tests which require 24-hour turnaround by their very nature such as pH) will incur a 100% surcharge for a 1-2 day turnaround and a 50% surcharge for a 3-5 day turnaround.

Unfortunately, the RUSH turnaround for a regular price has been at the foundation of what we have done for you for so many years. But it's been pointed out to me that we lose money every time we do the work and I've been directed to establish this new RUSH protocol and then follow it. I hope this doesn't cause you too much pain and agony; I do appreciate the commitment you've had with me over the years and I hope it won't change.

Please feel free to call me should you have any questions or concerns.

Sincerely,



Richard D. Reid  
Laboratory Director

Koppers001038

# COLUMBIA INSPECTION, INC.

7133 N. Lombard Street • Portland, OR 97203 • Telephone: (503) 286-9464 • Fax: (503) 285-7831

April 5, 2004

Q040405C.Koppers

T.J. Turner  
Koppers Industries  
7540 NW St. Helens Road  
Portland, OR 97210-3663

APR 6 2004

SUBJECT: 2004 Price Changes

Dear T.J.:

First and foremost, we want to thank you so much for your continued support and patronage. We are grateful to have had the opportunity to supply you with our services. As you are aware, the costs to do business continually increases. For the past several years, we have been able to absorb the majority of the cost with only minor adjustments. However, during 2003, it all caught up to us. we experienced increases that were due to more than just the normal inflation due to energy, water, and supply costs. As we have worked with your regulators, we are being asked to provide a more complex and standardized product. These changes include:

- 1) a more sophisticated stormwater sampling program which requires us to track storms more closely and frequently use mechanical pumping to collect samples from underneath in situ treatment systems,
- 2) a call to provide a more complete reporting package including quality assurance information, and
- 3) an overall proof of quality as demonstrated by a laboratory certification.

In responding to these compliance and accreditation issues, we have incurred ongoing costs beyond normal cost indices. We have purchased more sampling equipment, upgraded our laboratory information management system (LIMS), and achieved the recommended ORELAP accreditation for non-potable water.

Documentation of routine testing has significantly increased our costs per test. Chances are, you've been asked or will soon be asked to request that you lab provide extra information on your reports. We can provide that information at your request immediately.

Koppers001039

Consequently, we must pass a portion of these costs on to you. Enclosed please find updated pricing information specific to your testing requirements. You might notice a slight change in format. In order to better control prices overall, Columbia Inspection has chosen to change from quoted prices to a quoted discount percentage. Therefore, we will provide you with a discount that you'll be able to apply not just to your standard testing profiles but all tests in our price list.

Your discount percentage is 15% from list price plus a special RUSH turnaround time modification. This discount will go into effect on April 1, 2004. This discount is reflected in the following profile price list. These prices will remain in effect through the end of 2004.

Please feel free to call me should you have any questions or concerns. We appreciate your relationship with us and look forward to another great year working together.

Sincerely,

A handwritten signature in black ink, appearing to read "Rich Reid", written over a horizontal line.

Richard D. Reid  
Laboratory Director

Attachment: Profile Price List  
Laboratory Price List

## Analytical Services Quotation

Stormwater Tanks  
Koppers Industries, Inc.  
T.J. Turner

Bid Date: 04/01/2003  
Bid Expires: 12/31/2004  
Prices Expire: 12/31/2004

Matrix	Parameters	Method	#	TAT (days)	Unit Price	Extended Price
Water	EPA 1664 Oil & Grease	EPA 1664	1	1	\$51.00	\$51.00
Water	EPA 420.1 Total Phenols	EPA 420.1	1	1	\$46.75	\$46.75
Water	EPA 625 (SIM) PNAHs	EPA 625 (SIM)	1	1	\$165.75	\$165.75
						<b>\$263.50</b>

These prices represent a 15% discount from list price.  
A RUSH fee of 50% will be added to quarterly parameters.

---

David J. Melander  
Laboratory Manager  
Columbia Inspection, Inc.

Page 1 of 1

Koppers001041



FAX TRANSMITTAL

Koppers Industries, Inc.  
7540 N.W. St. Helens Road  
Portland, OR 97210-3663

Telephone: 503-286-3681

Fax: 503-285-2831

TO: Matt Maloney

DATE: 2/20/99

FROM: Aras Kamanch

TOTAL # OF PAGES: 2

1st Qtr. 1998 PAH's results are attached -

Sorry for the omission -

IF THIS TRANSMITTAL IS IN ERROR, PLEASE CALL 503-286-3681 FAX # 503-285-2831



# CERTIFICATE OF ANALYSIS

CLIENT: KOPPERS INDUSTRIES, INC.  
7510 NW ST. HELENS ROAD  
PORTLAND OR 97210-3663

PHONE: (503) 286-3681  
FAX: (503) 285-2831

DATE SUBMITTED: 01/21/98

PROJECT NAME: WASTE WATER ANALYSIS

CJ SAMPLE # CLIENTS ID# DATE TIME DESCRIPTION

980076-001-01 01/21/98 1315 TANKS 1-3-5 WASTE WATER GRAB SAMPLE  
980076-001-02 01/21/98 1315 TANKS 1-3-5 WASTE WATER GRAB SAMPLE

REPORT DATE: 01/22/98

REPORT NUMBER: 980076

PAGE: 1 OF 1

SAMPLE	ANALYSIS	PARAMETER	RESULT	UNIT	DETECTION LIMIT	ANALYST
TANKS 1-3-5 WASTE WATER GRAB SAMPLE						
980076-001-01	O&G. TOTAL, GRAV EPA 413.1/9070	TOTAL OIL & GREASE	2.0	PPM	2	Gordon L.

TANKS 1-3-5 WASTE WATER GRAB SAMPLE

980076-001-02	PNAH 2 EPA 625 (SIM)	ACENAPHTHENE	17	ug/l	0.05	Jacob F.
		ACFNAPHTHYLENE	4.7	ug/l	0.05	
		ANTHRACENE	10	ug/l	0.05	
		BENZO(A)ANTHRACENE	19	ug/l	0.05	
		BENZO(A)PYRENE	19	ug/l	0.2	
		BFN70(B)FLUORANTHENE	11	ug/l	0.2	
		BENZO(GHI)PERYLENE	22	ug/l	0.5	
		BENZO(K)FLUORANTHENE	11	ug/l	0.2	
		CHRYSENE	19	ug/l	0.05	
		DBENZO(AH)ANTHRACENE	ND	ug/l	0.3	
		FLUORANTHENE	23	ug/l	0.05	
		FLUORENE	12	ug/l	0.05	
		INDENO(1,2,3-CD)PYRENE	32	ug/l	0.4	
		NAPHTHALENE	0.35	ug/l	0.05	
		PHENANTHRENE	10	ug/l	0.05	
		PYRENE	19	ug/l	0.05	
			229.05			
		SURROGATE	76%		% RECOVERY 50%-150%	

REVIEWED BY:

*Martin Little*  
Martin Little Laboratory Manager





FAX TRANSMITTAL

Koppers Industries, Inc.  
7540 N.W. St. Helens Road  
Portland, OR 97210-3663

Telephone: 503-286-3681  
Fax: 503-285-2831

TO: MATT Maloney

DATE: 2/20/99

FROM: Amos Kamern

TOTAL # OF PAGES: 10

Attached is the info per your request of 2/19/99  
Advise if you need anything else.

Amos

IF THIS TRANSMITTAL IS IN ERROR, PLEASE CALL 503-286-3681 FAX # 503-285-2831

PERMITTEE NAME/ADDRESS (Include Facility Name/ Location if Different)  
NAME Koppers Industries, Inc.

ADDRESS 7540 NW Saint Helens Road  
Portland, OR 97210

FACILITY NW Terminal

LOCATION Multnomah County

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)  
DISCHARGE MONITORING REPORT (DMR)  
(2-16) (17-19)

101003  
PERMIT NUMBER

001  
DISCHARGE NUMBER

Form Approved.  
OMB No. 2040-0004  
Approval expires 05-31-98

MONITORING PERIOD						
YEAR	MO	DAY		YEAR	MO	DAY
98	08	01	TO	98	08	31
(20-21)	(22-23)	(24-25)		(26-27)	(28-29)	(30-31)

NOTE: Read instructions before completing this form.

PARAMETER (32-37)		(3 Card Only) QUANTITY OR LOADING (46-53)			(4 Card Only) QUANTITY OR CONCENTRATION (38-45) (46-53) (54-61)				NO. EX (62-63)	FREQUENCY OF ANALYSIS (64-68)	SAMPLE TYPE (69-70)
		AVERAGE	MAXIMUM	UNITS	MINIMUM	AVERAGE	MAXIMUM	UNITS			
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
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	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER	I CERTIFY UNDER PENALTY OF LAW THAT I HAVE PERSONALLY EXAMINED AND AM FAMILIAR WITH THE INFORMATION SUBMITTED HEREIN; AND BASED ON MY INQUIRY OF THOSE INDIVIDUALS IMMEDIATELY RESPONSIBLE FOR OBTAINING THE INFORMATION, I BELIEVE THE SUBMITTED INFORMATION IS TRUE, ACCURATE AND COMPLETE. I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION, INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT. SEE 18 U.S.C. § 1001 AND 33 U.S.C. § 1319. (Penalties under these statutes may include fines up to \$10,000 and/or maximum imprisonment of between 6 months and 5 years.)	 Arlos S. Kameroner, Plt. Mgr.	TELEPHONE	DATE		
R. D. Collins, V.P. TYPED OR PRINTED			503   286-3681 AREA CODE NUMBER	98   09   01 YEAR MO DAY		

COMMENTS AND EXPLANATION OF ANY VIOLATIONS (Reference all attachments here)

Nothing to report, no discharges during the month.

EPA Form 3320-1 (08-95) Previous editions may be used.

(REPLACES EPA FORM T-40 WHICH MAY NOT BE USED.)

City of Portland: T.T. Self-KIT

PAGE 1 OF 1

PERMITTEE NAME/ADDRESS (Include Facility Name/ Location if Different)

NAME Koppers Industries, Inc.

ADDRESS 7540 NW Saint Helens Road

Portland, OR 97210

FACILITY NW Terminal

LOCATION Multnomah County

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)

DISCHARGE MONITORING REPORT (DMR)

(2-16)

(17-19)

101003

PERMIT NUMBER

001

DISCHARGE NUMBER

Form Approved.

OMB No. 2040-0004

Approval expires 05-31-98

MONITORING PERIOD

FROM			TO		
YEAR	MO	DAY	YEAR	MO	DAY
98	10	01	98	10	31
(20-21) (22-23) (24-25)			(26-27) (28-29) (30-31)		

NOTE: Read instructions before completing this form.

PARAMETER (32-37)		(3 Card Only) QUANTITY OR LOADING (46-53)			(4 Card Only) QUANTITY OR CONCENTRATION (38-45) (46-53) (54-61)				NO. EX (62-63)	FREQUENCY OF ANALYSIS (64-68)	SAMPLE TYPE (69-70)
		AVERAGE	MAXIMUM	UNITS	MINIMUM	AVERAGE	MAXIMUM	UNITS			
FLOW	SAMPLE MEASUREMENT	12,258		GPD					0	N/A	EST.
	PERMIT REQUIREMENT										
TEMP	SAMPLE MEASUREMENT				56	58	60	F	0	1/7	GRAB
	PERMIT REQUIREMENT				N/A	N/A	N/A				
pH	SAMPLE MEASUREMENT				6.5	6.7	6.8	SU	0	1/7	GRAB
	PERMIT REQUIREMENT				6.0		9.0				
OIL & GREASE	SAMPLE MEASUREMENT				N.D.	N.D.	N.D.	MG/L	0	1/7	GRAB
	PERMIT REQUIREMENT				0	10	15				
PHENOLS	SAMPLE MEASUREMENT				N.D.	N.D.	N.D.	MG/L	0	1/30	GRAB
	PERMIT REQUIREMENT				0	.5	.7				
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER

R. D. Collins, V.P.

TYPED OR PRINTED

I CERTIFY UNDER PENALTY OF LAW THAT I HAVE PERSONALLY EXAMINED AND AM FAMILIAR WITH THE INFORMATION SUBMITTED HEREIN; AND BASED ON MY INQUIRY OF THOSE INDIVIDUALS IMMEDIATELY RESPONSIBLE FOR OBTAINING THE INFORMATION, I BELIEVE THE SUBMITTED INFORMATION IS TRUE, ACCURATE AND COMPLETE. I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION, INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT. SEE 18 U.S.C. § 1001 AND 33 U.S.C. § 1319. (Penalties under these statutes may include fines up to \$10,000 and or maximum imprisonment of between 6 months and 5 years.)

Joseph S. Kamerer, Plt. Mgr.

SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT

TELEPHONE

503 286-3681

AREA CODE NUMBER

DATE

98 11 03

YEAR MO DAY

COMMENTS AND EXPLANATION OF ANY VIOLATIONS (Reference all attachments here)

Fourth quarter PAH results are attached.

cc: J. Holtrop-City of Portland, T.I. Self-KII

EPA Form 3320-1 (08-95) Previous editions may be used.

(REPLACES EPA FORM T-40 WHICH MAY NOT BE USED.)

PAGE 1 OF 1

Koppers001046



# CERTIFICATE OF ANALYSIS

CLIENT: KOPPERS INDUSTRIES, INC.  
7540 NW ST. HELENS ROAD  
PORTLAND OR 97210-3663

PHONE: (503) 286-3681  
FAX: (503) 285-2831

DATE SUBMITTED: 10/13/98

PROJECT NAME: QUARTERLY WASTEWATER TEST

CI SAMPLE #	CLIENTS ID#	DATE	TIME	DESCRIPTION
981431-001		10/13/98	0800	WWTKs
981431-001		10/13/98	0800	WWTKs
981431-001		10/13/98	0800	WWTKs

REPORT DATE: 10/14/98

REPORT NUMBER: 981431

PAGE: 1 OF 2

SAMPLE	ANALYSIS	PARAMETER	RESULT	UNIT	DETECTION LIMIT	ANALYST
WWTKs						
981431-001	O&G, TOTAL, GRAV EPA 413.1/9070	TOTAL OIL & GREASE	ND	PPM	2	Gordon L.
981431-001	PHENOLS, TOTAL EPA 420.1	TOTAL RECOVERABLE PHENOLICS	ND	PPM	0.05	Abigail K.
981431-001	PNAH 2 EPA 625 (SIM)	ACENAPHTHENE	4.9	ug/l	0.05	Jacob F.
		ACENAPHTHYLENE	1.7	ug/l	0.05	
		ANTHRACENE	5.4	ug/l	0.05	
		BENZO(A)ANTHRACENE	66.	ug/l	0.05	
		BENZO(A)PYRENE	144.	ug/l	0.2	
		BENZO(B)FLUORANTHENE	100.	ug/l	0.2	
		BENZO(GHI)PERYLENE	99.	ug/l	0.5	
		BENZO(K)FLUORANTHENE	100.	ug/l	0.2	
		CHRYSENE	73.	ug/l	0.05	
		DIBENZO(AH)ANTHRACENE	52.	ug/l	0.3	

REVIEWED BY:

Richard D. Reid - Laboratory Director

# CERTIFICATE OF ANALYSIS

REPORT DATE: 10/14/98

REPORT NUMBER: 981431

PAGE: 2 OF 2

SAMPLE	ANALYSIS	PARAMETER	RESULT	UNIT	DETECTION LIMIT	ANALYST
WWTks						
981431-001	PNAH 2 EPA 625 (SIM)	FLUORANTHENE	52.	ug/l	0.05	Jacob F.
		FLUORENE	3.9	ug/l	0.05	
		INDENO(1,2,3-CD)PYRENE	180.	ug/l	0.4	
		NAPTHALENE	0.48	ug/l	0.05	
		PHENANTHRENE	18.	ug/l	0.05	
		PYRENE	48.	ug/l	0.05	
		SURROGATE	68%	% RECOVERY 50%-150%		



Corrected Report Date: April 18, 1997  
Job Number: 961203V  
PO Number: Amos Kamerer  
Project No: None Provided  
Project Name: None Provided

Amos Kamerer  
Koppers Industry  
7540 NW St. Helens Rd.  
Portland, OR 97210-3663

### Analytical Narrative

The samples were received on 12/03/96 by Coffey Laboratories, Inc. (CLI) Sample Reception personnel under strict chain of custody protocol. The following information was provided at the time of sample reception:

Laboratory Sample ID	Field Identification	Matrix	Collection Date	Collection Time
961203V-1	Wastewater Tanks 1,3 & 5	Waste Water	12/03/96	0800
961203V-2	Wastewater Tanks 2,4 & 6	Waste Water	12/03/96	0800

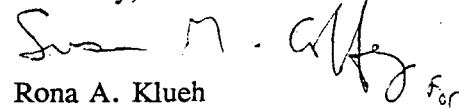
The recommended holding time for each batch of analyses was in accordance with the data quality objectives as specified in the CLI Quality Assurance Plan unless otherwise noted.

Acceptable precision and accuracy were achieved for all analyses associated with this work order as demonstrated by the recoveries of the quality control samples analyzed concurrently with each batch.

The data submitted in this report is for the sole and exclusive use of the above-named client. All samples associated with the work order will be retained a maximum of 15 days from the report date or until the maximum holding time expires. All results pertain only to samples submitted.

Thank you for allowing Coffey Laboratories to be of service to you. If you have questions or need further assistance, please do not hesitate to call our Customer Services Department.

Sincerely,

  
Rona A. Klueh  
Technical Director

RAK/atc

**Coffey Laboratories, Inc.**

12423 N.E. Whitaker Way • Portland, OR • 97230 • (503) 254-1794 • FAX (503) 254-1452

Koppers001049



### Analytical Data

Koppers Industry

Job Number: 961203V

Page Number: 2 of 4

Lab Sample ID: 961203V-1

Field ID: Wastewater Tanks 1,3 & 5

Date/Time: 12/03/96 0800

Matrix: Waste Water

EPA Category: Conventional Parameters

<u>Parameter</u>	<u>Method</u>	<u>Detection Limit</u>	<u>Analytical Result</u>	<u>Units</u>	<u>Analysis Date</u>	<u>Analyst</u>
Oil & Grease	EPA 413.1	3.	ND	mg/L	12/04/96	MJP
Total Phenols	EPA 420.1	0.05	0.08	mg/L	12/04/96	RAP

ND means none detected at or above the detection limit listed.

**Coffey Laboratories, Inc.**

12423 N.E. Whitaker Way • Portland, OR • 97230 • (503) 254-1794 • FAX (503) 254-1452

Koppers001050



### Analytical Data

Koppers Industry

Job Number: 961203V

Page Number: 3 of 4

Lab Sample ID: 961203V-1

Field ID: Wastewater Tanks 1,3 & 5

Date/Time: 12/03/96 0800

Matrix: Waste Water

EPA Category: Extractable Organics

Analysis Performed: EPA 8310; Polynuclear Aromatic Hydrocarbons by HPLC.

Analysis Date: 12/23/96

Analyst: VB

Parameter	Detection Limit	Laboratory Blank	Analytical Result
Acenaphthene	10.	ND	ND
Acenaphthylene	10.	ND	ND
Anthracene	1.	ND	ND
Benzo(a)anthracene	0.1	ND	4.0
Benzo(a)pyrene	0.4	ND	11.
Benzo(b)fluoranthene	0.1	ND	19.
Benzo(g,h,i)perylene	0.4	ND	6.4
Benzo(k)fluoranthene	0.1	ND	15.
Chrysene	1.	ND	7.
Dibenzo(a,h)anthracene	0.4	ND	1.7
Fluoranthene	1.	ND	15.
Fluorene	5.	ND	ND
Indeno(1,2,3-cd)pyrene	0.5	ND	7.3
Naphthalene	5.	ND	ND
Phenanthrene	1.	ND	ND
Pyrene	1.	ND	15.

Results expressed as  $\mu\text{g/L}$  unless otherwise noted.

ND means none detected at or above the detection limit listed.





## Analytical Data

Koppers Industry

Job Number: 961203V

Page Number: 4 of 4

Lab Sample ID: 961203V-2

Field ID: Wastewater Tanks 2,4 & 6

Date/Time: 12/03/96 0800

Matrix: Waste Water

EPA Category: Conventional Parameters

<u>Parameter</u>	<u>Method</u>	<u>Detection Limit</u>	<u>Analytical Result</u>	<u>Units</u>	<u>Analysis Date</u>	<u>Analyst</u>
Oil & Grease	EPA 413.1	3.	ND	mg/L	12/04/96	MJP
Total Phenols	EPA 420.1	0.05	ND	mg/L	12/04/96	RAP

ND means none detected at or above the detection limit listed.

**Coffey Laboratories, Inc.**

12423 N.E. Whitaker Way • Portland, OR • 97230 • (503) 254-1794 • FAX (503) 254-1452

Koppers001052



April 18, 1997

Mr. Amos Kamerer  
Koppers Industry  
7540 NW St. Helens Rd.  
Portland, OR 97210-3663

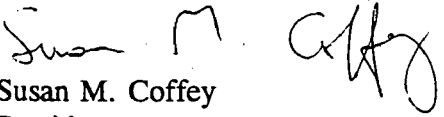
Re: Job Number 961203V

Dear Mr. Kamerer:

After your phone conversation concerning the PAH analysis for laboratory Job Number 961203V-1a, sample ID Wastewater Tanks 1,3 & 5, which were analyzed on 12/23/96, I had the Organic section investigate the run as to whether the results were reported in part per million (mg/L) or part per billion ( $\mu\text{g/L}$ ). Upon rechecking the raw data associated with the job, it was determined by the chemists involved in the original analysis, that an error was made in the sample dilution and that the results should have been reported in part per billion ( $\mu\text{g/L}$ ) and not in part per million (mg/L) as stated in the original report. A corrected report has been issued, and is enclosed for your review.

I apologize for the inconvenience this error has caused you. If I can be of further assistance in this matter, please contact me directly at 254-1794 ext 209, or have me paged by the receptionist.

Sincerely,  
COFFEY LABORATORIES, INC.

  
Susan M. Coffey  
President

SMC/gle

cc: Mr. Elliot Zais  
Oregon Dept of Environmental Quality  
2020 SW 4th, Suite 400  
Portland, OR 97201

L70418B.SMC

RECEIVED

APR 24 1997

KOPPERS INDS., INC.  
PORTLAND, OR

**Coffey Laboratories, Inc.**

12423 N.E. Whitaker Way • Portland, OR • 97230 • (503) 254-1794 • FAX (503) 254-1452

Koppers001053

PERMITTEE NAME/ADDRESS (Include  
Facility Name/Location if different)

NAME KOPPERS INDUSTRIES, INC.

ADDRESS 7540 NW ST HELENS ROAD

PORTLAND, OR 97210

FACILITY NORTHWEST PLANT DEQ #47430

LOCATION MULTNOMAH COUNTY

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)

DISCHARGE MONITORING REPORT (DMR)

(2-16)

(17-19)

101003

0006

PERMIT NUMBER

DISCHARGE NUMBER

3077-J

47430

Form Approved.

OMB No. 2040-0004.

Approval expires 6-30-91.

MONITORING PERIOD

FROM	YEAR	MO	DAY	TO	YEAR	MO	DAY
	94	06	01		94	06	30
	(20-21)	(22-23)	(24-25)		(26-27)	(28-29)	(30-31)

NOTE: Read instructions before completing this form.

PARAMETER (32-37)		(3 Card Only) QUANTITY OR LOADING (46-53)			(4 Card Only) QUALITY OR CONCENTRATION (54-61)				NO. EX (62-63)	FREQUENCY OF ANALYSIS (64-68)	SAMPLE TYPE (69-70)		
		AVERAGE	MAXIMUM	UNITS	MINIMUM	AVERAGE	MAXIMUM	UNITS					
FLOW	SAMPLE MEASUREMENT	6,000								N/A	4/30	EST.	
	PERMIT REQUIREMENT	N/A	N/A	GPD									
TEMPERATURE	SAMPLE MEASUREMENT				58	60	62		0	4/30	GRAB		
	PERMIT REQUIREMENT						110	F					
pH	SAMPLE MEASUREMENT				6.8	6.9	7.0		0	4/30	GRAB		
	PERMIT REQUIREMENT				6.0		9.0	SU					
OIL & GREASES	SAMPLE MEASUREMENT				N.D.	1.8	4		0	4/30	GRAB		
	PERMIT REQUIREMENT				N/A	10	15	mg/L					
PHENOLS	SAMPLE MEASUREMENT				N.D.	.05	.11		0	4/30	GRAB		
	PERMIT REQUIREMENT				N/A	.5	.7	mg/L					
	SAMPLE MEASUREMENT												
	PERMIT REQUIREMENT												
	SAMPLE MEASUREMENT												
	PERMIT REQUIREMENT												
NAME/TITLE PRINCIPAL EXECUTIVE OFFICER		I CERTIFY UNDER PENALTY OF LAW THAT I HAVE PERSONALLY EXAMINED AND AM FAMILIAR WITH THE INFORMATION SUBMITTED HEREIN, AND BASED ON MY INQUIRY OF THOSE INDIVIDUALS IMMEDIATELY RESPONSIBLE FOR OBTAINING THE INFORMATION, I BELIEVE THE SUBMITTED INFORMATION IS TRUE, ACCURATE AND COMPLETE. I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION, INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT SEE 18 USC § 1001 AND 33 USC § 1319. (Penalties under these statutes may include fines up to \$10,000 and/or maximum imprisonment of between 6 months and 5 years.)							TELEPHONE		DATE		
J. R. BATCHELDER, V.P.		A. E. KAMERER, PLANT MGR SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT							503   286-3681		94	07	01
TYPED OR PRINTED									AREA CODE		NUMBER		YEAR

COMMENT AND EXPLANATION OF ANY VIOLATIONS (Reference all attachments here)

A COPY OF THE SECOND QUARTER PAH RESULTS IS ATTACHED



### Analytical Data

Koppers Industry

Job Number: 940607AY

Page Number: 3 of 3

Lab Sample ID: 940607AY-2

Field ID: WWT-4

Date/Time: 06/07/94 1500

Matrix: Waste Water

EPA Category: Conventional Parameters

Parameter	Method	Detection Limit	Analytical Result	Units	Analysis Date	Analyst
Oil & Grease	EPA 413.1	3.	4.	mg/L	06/09/94	DHN
Total Phenols	EPA 420.1	0.05	ND	mg/L	06/10/94	SVS

ND means none detected at or above the detection limit listed.

Analysis Performed: Polynuclear Aromatic Hydrocarbons in Waste Water, by EPA Method 8310, HPLC.

Compound	Detection Limit	Laboratory Blank	Sample Results	Sample Duplicate
Acenaphthene	150	ND	ND	ND
Acenaphthylene	150	ND	ND	ND
Anthracene	60	ND	ND	ND
Benzo(a)anthracene	10	ND	23	19
Benzo(b)fluoranthene	10	ND	26	27
Benzo(k)fluoranthene	15	ND	22	24
Benzo(g,h,i)perylene	20	ND	27	33
Benzo(a)pyrene	15	ND	43	43
Chrysene	10	ND	25	25
Dibenzo(a,h)anthracene	10	ND	ND	ND
Fluoranthene	75	ND	ND	ND
Fluorene	25	ND	ND	ND
Indeno(1,2,3-c,d)pyrene	15	ND	40	39
Naphthalene	150	ND	ND	ND
Phenanthrene	25	ND	ND	ND
Pyrene	80	ND	ND	ND

206

Results expressed as  $\mu\text{g/L}$  unless otherwise noted.

ND means none detected at or above the detection limit listed.

**COFFEY LABORATORIES, INC.**

12423 N.E. Whitaker Way • Portland, OR • 97230 • (503) 254-1794 • FAX (503) 254-1452

Koppers001055

PERMITTEE NAME/ADDRESS (Include Facility Name/Location if different)  
NAME KOPPERS INDUSTRIES, INC.  
ADDRESS 7540 NW ST. HELENS ROAD  
PORTLAND, OR 97210

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)  
DISCHARGE MONITORING REPORT (DMR)

101003 (2-16) PERMIT NUMBER	06 (17-19) DISCHARGE NUMBER
-----------------------------------	-----------------------------------

3077-j  
47430

Form Approved.  
OMB No. 2040-0004  
Approval expires 10-31-94

FACILITY NORTHWEST PLANT DEQ #47430  
LOCATION MULTNOMAH COUNTY

MONITORING PERIOD					
FROM			TO		
YEAR	MO	DAY	YEAR	MO	DAY
95 (20-21)	06 (22-23)	01 (24-25)	95 (26-27)	06 (28-29)	30 (30-31)

NOTE: Read instructions before completing this form.

PARAMETER (32-37)		(3 Card Only) QUANTITY OR LOADING (46-53)			(4 Card Only) QUALITY OR CONCENTRATION (38-45)			NO. EX (62-63)	FREQUENCY OF ANALYSIS (64-68)	SAMPLE TYPE (69-70)	
		AVERAGE (46-53)	MAXIMUM (54-61)	UNITS (54-61)	MINIMUM (38-45)	AVERAGE (46-53)	MAXIMUM (54-61)				UNITS (54-61)
FLOW	SAMPLE MEASUREMENT	7,333		GPD					N/A	2/30	EST.
	PERMIT REQUIREMENT	N/A									
TEMPERATURE	SAMPLE MEASUREMENT				61	64	66	°F	0	2/30	GRAB
	PERMIT REQUIREMENT										
pH	SAMPLE MEASUREMENT				6.5	6.5	6.5	SU	0	2/30	GRAB
	PERMIT REQUIREMENT										
OIL & GREASE	SAMPLE MEASUREMENT				6.0	8.0	9.0	mg/L	0	2/30	GRAB
	PERMIT REQUIREMENT										
PHENOLS	SAMPLE MEASUREMENT				N.D.	.06	.12	Mg/L	0	2/30	GRAB
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
NAME/TITLE PRINCIPAL EXECUTIVE OFFICER		I CERTIFY UNDER PENALTY OF LAW THAT I HAVE PERSONALLY EXAMINED AND AM FAMILIAR WITH THE INFORMATION SUBMITTED HEREIN, AND BASED ON MY INQUIRY OF THOSE INDIVIDUALS IMMEDIATELY RESPONSIBLE FOR OBTAINING THE INFORMATION, I BELIEVE THE SUBMITTED INFORMATION IS TRUE, ACCURATE AND COMPLETE. I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION, INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT SEE 18 USC § 1001 AND 33 USC § 1319. (Penalties under these statutes may include fines up to \$10,000 and/or maximum imprisonment of between 6 months and 5 years.)				TELEPHONE		DATE			
R.D. COLLINS, V.P.						A.S. KRAMER, PLANT MGR.					
TYPED OR PRINTED		SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT				503	286-3681	95	07	18	
						AREA CODE	NUMBER	YEAR	MO	DAY	

COMMENT AND EXPLANATION OF ANY VIOLATIONS (Reference all attachments here)

THIS SECOND QUARTER DATA RESULTS ARE APPROVED

PERMITTEE NAME/ADDRESS (Include  
Facility Name/Location if different)  
NAME KOPPERS INDUSTRIES, INC.  
ADDRESS 7540 NW ST HELENS ROAD  
PORTLAND, OR 97210

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)  
DISCHARGE MONITORING REPORT (DMR)

(2-16) 101003	(17-19) 05
PERMIT NUMBER	DISCHARGE NUMBER

Form Approved.  
OMB No. 2040-0004.  
Approval expires 6-30-91.

3077-J  
47430

FACILITY NORTHWEST PLANT DEO #47430  
LOCATION MULTNOMAH COUNTY

MONITORING PERIOD					
FROM			TO		
YEAR	MO	DAY	YEAR	MO	DAY
95	05	01	95	05	31
(20-21)	(22-23)	(24-25)	(26-27)	(28-29)	(30-31)

NOTE: Read instructions before completing this form.

PARAMETER (32-37)	X	(3 Card Only) (46-53) QUANTITY OR LOADING (54-61)			(4 Card Only) (38-45) QUALITY OR CONCENTRATION (54-61)				NO. EX (62-63)	FREQUENCY OF ANALYSIS (64-68)	SAMPLE TYPE (69-70)	
		AVERAGE	MAXIMUM	UNITS	MINIMUM	AVERAGE	MAXIMUM	UNITS				
FLOW	SAMPLE MEASUREMENT	7,097								N/A	2/31	EST.
	PERMIT REQUIREMENT	N/A	N/A									
TEMPERATURE	SAMPLE MEASUREMENT				60	61	62			0	2/31	GRAB
	PERMIT REQUIREMENT						110	F				
pH	SAMPLE MEASUREMENT				6.4	6.5	6.6			0	2/31	GRAB
	PERMIT REQUIREMENT				6.0		49.0	SU				
OIL & GREASE	SAMPLE MEASUREMENT				N.D.	2.5	5.0			0	2/31	GRAB
	PERMIT REQUIREMENT				N/A	10	15	mg/L				
PHENOLS	SAMPLE MEASUREMENT				N.D.	.03	.05			0	2/31	GRAB
	PERMIT REQUIREMENT				N/A	.5	.7	mg/L				
	SAMPLE MEASUREMENT											
	PERMIT REQUIREMENT											
	SAMPLE MEASUREMENT											
	PERMIT REQUIREMENT											

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER  R. D. COLLINS, V. P. TYPED OR PRINTED	I CERTIFY UNDER PENALTY OF LAW THAT I HAVE PERSONALLY EXAMINED AND AM FAMILIAR WITH THE INFORMATION SUBMITTED HEREIN, AND BASED ON MY INQUIRY OF THOSE INDIVIDUALS IMMEDIATELY RESPONSIBLE FOR OBTAINING THE INFORMATION, I BELIEVE THE SUBMITTED INFORMATION IS TRUE, ACCURATE AND COMPLETE. I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION, INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT SEE 18 USC § 1001 AND 33 USC § 1319 (Penalties under these statutes may include fines up to \$10,000 and/or maximum imprisonment of between 6 months and 5 years.)	A. S. KAMERER / KM A. S. KAMERER, PLANT MGR. SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT	TELEPHONE	DATE		
			503   286-3681 AREA CODE   NUMBER	95	06	09 YEAR   MO   DAY

COMMENT AND EXPLANATION OF ANY VIOLATIONS (Reference all attachments here)

THE SECOND QUARTER PAH RESULTS ARE ATTACHED.



## Analytical Data

Koppers Industry

Job Number: 950511BL

Page Number: 2 of 2

Lab Sample ID: 950511BL-1

Field ID: W.W.T. 2,4,6

Date/Time: 05/11/95 1400

Matrix: Waste Water

EPA Category: Conventional Parameters

Parameter	Method	Detection Limit	Analytical Result	Units	Analysis Date	Analyst
Oil & Grease	EPA 413.1	3.	5.	mg/L	05/12/95	JAG
Total Phenols	EPA 420.1	0.05	ND	mg/L	05/12/95	SVS

EPA Category: Not Applicable

Parameter	Method	Detection Limit	Analytical Result	Units	Analysis Date	Analyst
Acenaphthene	EPA 8310	30.	ND	µg/L	05/16/95	DJM
Acenaphthylene	EPA 8310	30.	ND	µg/L	05/16/95	DJM
Anthracene	EPA 8310	10.	ND	µg/L	05/16/95	DJM
Benzo(a)anthracene	EPA 8310	1.	2.	µg/L	05/16/95	DJM
Benzo(b)fluoranthene	EPA 8310	2.	4.	µg/L	05/16/95	DJM
Benzo(k)fluoranthene	EPA 8310	1.	2.	µg/L	05/16/95	DJM
Benzo(g,h,i)perylene	EPA 8310	3.	ND	µg/L	05/16/95	DJM
Benzo(a)pyrene	EPA 8310	1.5	2.	µg/L	05/16/95	DJM
Chrysene	EPA 8310	3.	ND	µg/L	05/16/95	DJM
Dibenzo(a,h)anthracene	EPA 8310	3.	ND	µg/L	05/16/95	DJM
Fluoranthene	EPA 8310	5.	ND	µg/L	05/16/95	DJM
Fluorene	EPA 8310	20.	ND	µg/L	05/16/95	DJM
Indeno(1,2,3-cd)pyrene	EPA 8310	3.	ND	µg/L	05/16/95	DJM
Naphthalene	EPA 8310	30.	ND	µg/L	05/16/95	DJM
Phenanthrene	EPA 8310	10.	ND	µg/L	05/16/95	DJM
Pyrene	EPA 8310	10.	ND	µg/L	05/16/95	DJM

ND means none detected at or above the detection limit listed.

**COFFEY LABORATORIES, INC.**

12423 N.E. Whitaker Way • Portland, OR • 97230 • (503) 254-1794 • FAX (503) 254-1452

Koppers001058

PERMITTEE NAME/ADDRESS (Include  
Facility Name/Location if different)  
**Koppers Industries, Inc.**  
**ADDRESS 7540 NW St Helens Road**  
**Portland, OR 97210**

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)  
**DISCHARGE MONITORING REPORT (DMR)**

101003  
(2-16)

PERMIT NUMBER

12  
(17-19)

DISCHARGE NUMBER

3077-J  
47430

Form Approved.

OMB No. 2040-0004

Approval expires 10-31-94

**FACILITY** Northwest Plant DEQ #47430  
**LOCATION** Multnomah County

**MONITORING PERIOD**

FROM YEAR MO DAY TO YEAR MO DAY  
95 12 01 95 12 31  
(20-21) (22-23) (24-25) (26-27) (28-29) (30-31)

**NOTE: Read instructions before completing this form.**

PARAMETER (32-37)	X	(3 Card Only) (46-53) QUANTITY OR LOADING (34-61)			(4 Card Only) (38-45) QUALITY OR CONCENTRATION (46-53)				NO. EX (62-63)	FREQUENCY OF ANALYSIS (64-68)	SAMPLE TYPE (69-70)
		AVERAGE	MAXIMUM	UNITS	MINIMUM	AVERAGE	MAXIMUM	UNITS			
Flow	SAMPLE MEASUREMENT	14,194		GPD					n/a	12/31	Est.
	PERMIT REQUIREMENT										
Temperature	SAMPLE MEASUREMENT				42	49	54		0	12/31	Grab
	PERMIT REQUIREMENT						110	F			
pH	SAMPLE MEASUREMENT				6.3	6.4	6.4		0	12/31	Grab
	PERMIT REQUIREMENT				6.0		9.0	SU			
Oil & Grease	SAMPLE MEASUREMENT				n.d.	n.d.	n.d.		0	12/31	Grab
	PERMIT REQUIREMENT				n/a	10	15	mg/L			
Phenols	SAMPLE MEASUREMENT				n.d.	.11	.10		0	12/31	Grab
	PERMIT REQUIREMENT				n/a	0.5	0.7	mg/L			
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER	I CERTIFY UNDER PENALTY OF LAW THAT I HAVE PERSONALLY EXAMINED AND AM FAMILIAR WITH THE INFORMATION SUBMITTED HEREIN, AND BASED ON MY INQUIRY OF THOSE INDIVIDUALS IMMEDIATELY RESPONSIBLE FOR OBTAINING THE INFORMATION, I BELIEVE THE SUBMITTED INFORMATION IS TRUE, ACCURATE AND COMPLETE. I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION, INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT SEE 18 USC § 1001 AND 33 USC § 1319. (Penalties under these statutes may include fines up to \$10,000 and/or maximum imprisonment of between 6 months and 5 years.)	APRIL S. KAMERER, Plant Mgr SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT	TELEPHONE	DATE		
R. D. Collins, V.P. TYPED OR PRINTED			503   286-3681 AREA CODE NUMBER	96   01   02 YEAR MO DAY		

COMMENT AND EXPLANATION OF ANY VIOLATIONS (Reference all attachments here)

4th Quarter PAH test results are attached.





### Analytical Data

Koppers Industry

Job Number: 951211AO

Page Number: 4 of 4

Lab Sample ID: 951211AO-2

Field ID: WWT 1-3-5

Date/Time: 12/11/95 1430

Matrix: Waste Water

EPA Category: Extractable Organics

Analysis Performed: EPA 8310; Polynuclear Aromatic Hydrocarbons by HPLC.

Analysis Date: 12/13/95

Analyst: DJM

Parameter	Detection Limit	Laboratory Blank	Analytical Result
Acenaphthene	150.	ND	ND
Acenaphthylene	150.	ND	ND
Anthracene	30.	ND	ND
Benzo(a)anthracene	1.5	ND	7.
Benzo(b)fluoranthene	1.5	ND	9.
Benzo(k)fluoranthene	0.75	ND	5.7
Benzo(g,h,i)perylene	4.5	ND	ND
Benzo(a)pyrene	1.5	ND	12.
Chrysene	15.	ND	ND
Dibenzo(a,h)anthracene	4.5	ND	ND
Fluoranthene	15.	ND	ND
Fluorene	60.	ND	ND
Indeno(1,2,3-cd)pyrene	7.5	ND	ND
Naphthalene	150.	ND	ND
Phenanthrene	40.	ND	ND
Pyrene	30.	ND	ND

Results expressed as  $\mu\text{g/l}$  unless otherwise noted.

ND means none detected at or above the detection limit listed.

**Coffey Laboratories, Inc.**

12423 N.E. Whitaker Way • Portland, OR • 97230 • (503) 254-1794 • FAX (503) 254-1452

Koppers001060



Koppers Industries, Inc.  
7540 N.W. St. Helens Road  
Portland, OR 97210-3663

**Amos S. Kamerer**  
Plant Manager

Telephone: 503-286-3681  
Fax: 503-285-2831

April 18, 1997

Mr. Elliot J. Zais  
Sr. Environmental Engineer  
Oregon D.E.Q.  
2020 S.W. Fourth Ave, #400  
Portland, Oregon 97201-4987

Dear Elliot,

To confirm our telephone conversation of yesterday. Due to my misreading of the data contained in the Laboratory Analysis Reports for PAH testing, I have had one non-conforming discharge and possibly two.

The December 1996 Fourth Quarter PAH Analysis, performed by Coffey Laboratories, was reported for the first time ever as MG/L, rather than UG/L, and I did not notice the change. Thinking we were in compliance, we pumped the tanks.

I have talked to Susan at Coffey and she is researching the data from the December Analysis and will report to me, with a copy to you, via a letter fax early next week. As I indicated to you we have never had a non-conformance analysis for PAH's before and because of the magnitude of the results, I can't believe that they are correct. Hopefully, Susan will be able to determine what happened.

In January 1997 we changed Laboratories to Columbia Inspection, Inc. Their March 1997 First Quarter PAH Analysis was also reported as MG/L, rather than UG/L, and again I did not notice the change and pumped the tanks, thinking that I was in compliance.

It wasn't until this Monday as I was preparing the DMR that I noticed the error. I called Dick Reed with Columbia, and as you can see by his attached letter, he is sure of his results and that I was out of compliance.

On Tuesday of this week we took another sample for PAH analysis and the Columbia Analysis showed that we were back into compliance. We have reviewed everything that we are doing here at the plant and I truly do not know why we would have had this spike in March, let alone the possibility that the December analysis might also be correct.

I am traveling next week, but will be back in the office on Monday April 28, I will call you then to review the Coffey investigation report and to see how you want to proceed on this matter.

I have attached copies of all of the referenced data in this letter.

Sincerely,

A handwritten signature in cursive script that reads "Amos".

Amos S. Kameron

bcc: W.W. Turner, K-1600  
W.E. Swearingen, K-1800  
F.J. Fitzgerald, Stickney

PERMITTEE NAME/ADDRESS (Include Facility Name/Location if different)

NAME Koppers Ind. Inc.

ADDRESS 7540 NW St. Helens Rd.

Portland, OR 97210

FACILITY NW Plant

LOCATION Multnomah Co.

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)

DISCHARGE MONITORING REPORT (DMR)

(2-16)

(17-19)

101003

PERMIT NUMBER

001

DISCHARGE NUMBER

3077-J

Form Approved.

OMB No. 2040-0004

Approval expires 10-31-94

MONITORING PERIOD

FROM	YEAR	MO	DAY	TO	YEAR	MO	DAY
	96	12	01		96	12	31
	(20-21)	(22-23)	(24-25)		(26-27)	(28-29)	(30-31)

47430

NOTE: Read instructions before completing this form.

PARAMETER (32-37)	<div></div>	(3 Card Only) QUANTITY OR LOADING (46-53)			(4 Card Only) QUALITY OR CONCENTRATION (38-45)				NO. EX (62-63)	FREQUENCY OF ANALYSIS (64-68)	SAMPLE TYPE (69-70)
		AVERAGE	MAXIMUM	UNITS	MINIMUM	AVERAGE	MAXIMUM	UNITS			
FLOW	SAMPLE MEASUREMENT	44,516		GPD					N/A	18/31	EST.
	PERMIT REQUIREMENT										
TEMP	SAMPLE MEASUREMENT				45	48	50	F°	0	18/31	GRAB
	PERMIT REQUIREMENT				N/A	N/A	N/A				
pH	SAMPLE MEASUREMENT				6.9	7.0	7.1	SU	0	18/31	GRAB
	PERMIT REQUIREMENT				6.0		9.0				
OIL & GREASE	SAMPLE MEASUREMENT				N.D.	4.0	7.0	MG/L	0	18/31	GRAB
	PERMIT REQUIREMENT				0	10	15				
PHENOLS	SAMPLE MEASUREMENT				N.D.	.06	.13	Mg/L	0	18/31	GRAB
	PERMIT REQUIREMENT				0	.5	.7				
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER

R.D. COLLINS, VP

TYPED OR PRINTED

I CERTIFY UNDER PENALTY OF LAW THAT I HAVE PERSONALLY EXAMINED AND AM FAMILIAR WITH THE INFORMATION SUBMITTED HEREIN; AND BASED ON MY INQUIRY OF THOSE INDIVIDUALS IMMEDIATELY RESPONSIBLE FOR OBTAINING THE INFORMATION, I BELIEVE THE SUBMITTED INFORMATION IS TRUE, ACCURATE, AND COMPLETE. I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION, INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT. SEE 18 U.S.C. § 1001 AND 33 U.S.C. § 1319. (Penalties under these statutes may include fines up to \$10,000 and or maximum imprisonment of between 6 months and 5 years.)

A.S. KAMERER, PLT. MGR.

SIGNATURE OF PRINCIPAL EXECUTIVE

OFFICER OR AUTHORIZED AGENT

TELEPHONE

503 286-3681

AREA CODE

NUMBER

DATE

97 01 02

YEAR MO DAY

COMMENT AND EXPLANATION OF ANY VIOLATIONS (Reference all attachments here)

FOURTH QUARTER PAH RESULTS ARE ATTACHED



### Analytical Data

Koppers Industry

Job Number: 961203V

Page Number: 3 of 4

Lab Sample ID: 961203V-1

Field ID: Wastewater Tanks 1,3 & 5

Date/Time: 12/03/96 0800

Matrix: Waste Water

EPA Category: Extractable Organics

Analysis Performed: EPA 8310; Polynuclear Aromatic Hydrocarbons by HPLC.

Analysis Date: 12/23/96

Analyst: VB

Parameter	Detection Limit	Laboratory Blank	Analytical Result
Acenaphthene	10.	ND	ND
Acenaphthylene	10.	ND	ND
Anthracene	1.	ND	ND
Benzo(a)anthracene	0.1	ND	4.0
Benzo(a)pyrene	0.4	ND	11.
Benzo(b)fluoranthene	0.1	ND	19.
Benzo(g,h,i)perylene	0.4	ND	6.4
Benzo(k)fluoranthene	0.1	ND	15.
Chrysene	1.	ND	7.
Dibenzo(a,h)anthracene	0.4	ND	1.7
Fluoranthene	1.	ND	15.
Fluorene	5.	ND	ND
Indeno(1,2,3-cd)pyrene	0.5	ND	7.3
Naphthalene	5.	ND	ND
Phenanthrene	1.	ND	ND
Pyrene	1.	ND	15.

Results expressed as mg/l unless otherwise noted.

ND means none detected at or above the detection limit listed.

101.4

# RECEIVED

JAN - 2 1997

KOPPERS INDS., INC.  
PORTLAND, OR

**Coffey Laboratories, Inc.**

12423 N.E. Whitaker Way • Portland, OR • 97230 • (503) 254-1794 • FAX (503) 254-1452

Koppers001064

# *Columbia Inspection, Inc.*

Member of ASTM & API  
U.S. Customs Commercial Gauger and Laboratory

April 18, 1997

L970418A.KII

Mr. Amos Kamerer  
Koppers Industries, Inc.  
7540 NW St. Helens Road  
Portland, OR 97210-3663

**RECEIVED**

APR 21 1997

KOPPERS INDS., INC.  
PORTLAND, OR

RE: The PAH Analysis of Wastewater Tanks 1,3,5 (03/06/97)

Dear Amos:

As per your request, I have again reviewed the PAH test which yielded total toxic organic levels of 1.6 mg/L (1,600 ppb) in order to validate whether or not your discharge was, indeed, out of compliance. The following is the result of my review.

1. The sample bottle provided for sample collection was a bottle that had been washed with a hot alkaline detergent, rinsed numerous times with deionized water. The bottle was also solvent rinsed three times to remove organic residue. Other bottles washed at that time were used by other clients for PAH analysis with results in the low parts-per-billion or "none detected" range. This tends to suggest that the bottle was suitably clean prior to sample collection.
2. The extraction blank which accompanied this test showed "none detected" for all parameters. The sample's extract was especially dirty for a sample of this nature. The sample extract concentration step took the initial sample volume of 950mLs down to 1.0 mLs, nearly a thousand-fold concentration.
3. Unlike most routine samples, this sample showed "hits" for every parameter on the PAH list. The analyst was questioned about the possibility that he had accidentally spike the sample with standatd instead of surrogate solution. He said this wasn't the case. He also suggested that if such a mistake had been made, the levels found for all parameters would have been close to a given concentration.
4. The calibration standards for this test yielded essentially the same integration counts as found with other analyses. The counts obtained for the Koppers sample yield "ppm" results in the 1-500 ppm range for nearly all parameters. These ppm results were then corrected for the 950-fold concentration which essentially converts ppm results to ppb results. Thus, we reported results in the 1-500 ppb range. The surrogate recovery was 94% which validates the data.

From the office at . . .

- PORTLAND  
7133 N. Lombard St.  
P.O. Box 83569 - St. Johns Sta.  
Portland, OR 97283-0569  
503-286-9464  
FAX 503-285-7831
- TACOMA  
4901 E. 20 Street  
Fife, WA 98424  
206-922-8781  
FAX 206-922-8957
- SAN FRANCISCO  
613 Escobar Street  
Martinez, CA 94553  
510-229-0360  
FAX 510-229-2821
- LOS ANGELES  
790 Basin St., Unit #2  
San Pedro, CA 90731  
310-833-1557  
FAX 310-833-1585

All results can be justified and point to a total PAH content over 1000 ppb. Please feel free to call me should you have any questions or concerns.

Sincerely,

A handwritten signature in black ink, appearing to read "Richard D. Reid". The signature is fluid and cursive, with the first name "Richard" and last name "Reid" clearly distinguishable.

Richard D. Reid  
Laboratory Director



# CERTIFICATE OF ANALYSIS

CLIENT: KOPPERS INDUSTRIES, INC.  
7540 NW ST. HELENS ROAD  
PORTLAND OR 97210-3663

PHONE: (503) 286-3681  
FAX: (503) 285-2831

DATE SUBMITTED: 04/16/97

PO#:

PROJECT NAME: WW Tanks 1-3-5

CI SAMPLE #	CLIENTS ID#	DATE	TIME	DESCRIPTION
970550-001-01		04/14/97		Wastewater Grab from Tanks 1-3-5

REPORT DATE: 04/16/97

REPORT NUMBER: 970550

PAGE: 1 OF 1

SAMPLE	TEST	PARAMETER	RESULT	UNIT	DETECTION LIMIT	ANALYST
970550-001-01	PNAH 2	ACENAPHTHENE	0.009	PPM	0.007	*
	EPA 625 (SIM)	ACENAPHTHYLENE	0.020	PPM	0.010	
		ANTHRACENE	ND	PPM	0.001	
		BENZO(A)ANTHRACENE	ND	PPM	0.005	
		BENZO(A)PYRENE	ND	PPM	0.01	
		BENZO(B)FLUORANTHENE	ND	PPM	0.0001	
		BENZO(GHI)PERYLENE	ND	PPM	0.0004	
		BENZO(K)FLUORANTHENE	ND	PPM	0.0003	
		CHRYSENE	ND	PPM	0.001	
		DIBENZO(AH)ANTHRACENE	ND	PPM	0.0004	
		FLUORANTHENE	0.022	PPM	0.001	
		FLUORENE	0.004	PPM	0.001	
		INDENO(1,2,3-CD)PYRENE	ND	PPM	0.001	
		NAPHTHALENE	ND	PPM	0.006	
		PHENANTHRENE	0.008	PPM	0.001	
		PYRENE	ND	PPM	0.001	

SURROGATE

ACCEPTABLE % RECOVERY

63

REVIEWED BY:

  
Richard D. Reid - Laboratory Director





# CERTIFICATE OF ANALYSIS

CLIENT: KOPPERS INDUSTRIES, INC.  
7540 NW ST. HELENS ROAD  
PORTLAND OR 97210-3663

PHONE: (503) 286-3681  
FAX: (503) 285-2831

DATE SUBMITTED: 03/06/97

PO#:

PROJECT NAME: WASTE WATER TANKS 1-3-5

CI SAMPLE #	CLIENTS ID#	DATE	TIME	DESCRIPTION
970317-001-01		03/06/97	0800	WASTE WATER GRAB SAMPLE
970317-001-02		03/06/97	0800	WASTE WATER GRAB SAMPLE
970317-001-03		03/06/97	0800	WASTE WATER GRAB SAMPLE


REPORT DATE: 03/13/97

REPORT NUMBER: 970317

PAGE: 1 OF 2

SAMPLE	TEST	PARAMETER	RESULT	UNIT	DETECTION LIMIT	ANALYST
970317-001-01	O&G. TOTAL, GRAV EPA 413.1/9070	TOTAL OIL & GREASE	5.1	PPM	2	Dick R.
970317-001-02	PHENOLS, TOTAL EPA 420.1	TOTAL RECOVERABLE PHENOLICS	.051	PPM	0.05	Dick R.
970317-001-03	PNAH 1 EPA 8270M (SIM)	ACENAPHTHENE	0.0091	PPM	0.00005	Jacob F.
		ACENAPHTHYLENE	0.0010	PPM	0.00005	
		ANTHRACENE	0.013	PPM	0.00005	
		BENZO(A)ANTHRACENE	0.45	PPM	0.00005	
		BENZO(A)PYRENE	0.25	PPM	0.0005	
		BENZO(B)FLUORANTHENE	0.024	PPM	0.0005	
		BENZO(GHI)PERYLENE	0.23	PPM	0.0005	

REVIEWED BY:

  
Richard D. Reid - Laboratory Director

COPY

Columbia Inspection, Inc. 7133 N Lombard St. - Portland, OR 97203 (503) 286-9464 Fax (503) 286-5355

Koppers001068

# CERTIFICATE OF ANALYSIS

REPORT DATE: 03/13/97

REPORT NUMBER: 970317

PAGE: 2 OF 2

SAMPLE	TEST	PARAMETER	RESULT	UNIT	DETECTION LIMIT	ANALYST
970317-001-03	PNAH 1	BENZO(K)FLUORANTHENE	0.20	PPM	0.0005	Jacob F.
	EPA 8270M (SIM)	CHRYSENE	0.055	PPM	0.00005	
		DIBENZO(AH)ANTHRACENE	0.057	PPM	0.0005	
		FLUORANTHENE	0.13	PPM	0.00005	
		FLUORENE	0.0085	PPM	0.00005	
		INDENO(1,2,3-CD)PYRENE	0.057	PPM	0.0005	
		NAPHTHALENE	0.00096	PPM	0.00005	
		PHENANTHRENE	0.058	PPM	0.00005	
		PYRENE	0.11	PPM	0.00005	
		SURROGATE	94%	%RECOVERY	50%-150%	

1.65356

COPY

PERMITTEE NAME/ADDRESS (Include Facility Name/Location if different)

NAME **KOPPERS IND. INC.**

ADDRESS **7540 NW ST HELENS RD  
PORTLAND, OR 97210**

FACILITY **NORTHWEST TERMINAL**

LOCATION **MULTNOMAH CO.**

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)

DISCHARGE MONITORING REPORT (DMR)

(2-16)

(17-19)

101003

PERMIT NUMBER

001

DISCHARGE NUMBER

3077-J

47430

Form Approved.

OMB No. 2040-0004

Approval expires 10-31-94

MONITORING PERIOD

FROM			TO		
YEAR	MO	DAY	YEAR	MO	DAY
97	03	01	97	03	31
(20-21)	(22-23)	(24-25)	(26-27)	(28-29)	(30-31)

NOTE: Read instructions before completing this form.

PARAMETER (32-37)		(3 Card Only) QUANTITY OR LOADING (46-53)			(4 Card Only) QUALITY OR CONCENTRATION (38-45) (46-53) (54-61)				NO. EX (62-63)	FREQUENCY OF ANALYSIS (64-68)	SAMPLE TYPE (69-70)
		AVERAGE	MAXIMUM	UNITS	MINIMUM	AVERAGE	MAXIMUM	UNITS			
FLOW	SAMPLE MEASUREMENT	17,742		GPD					N/A	15/31	EST.
	PERMIT REQUIREMENT										
TEMP	SAMPLE MEASUREMENT				48	50	53	°F	0	15/31	GRAB
	PERMIT REQUIREMENT				N/A	N/A	N/A				
pH	SAMPLE MEASUREMENT				6.9	7.1	7.3	SU	0	15/31	GRAB
	PERMIT REQUIREMENT				6.0	—	9.0				
OIL & GREASE	SAMPLE MEASUREMENT				N.D.	3.2	6.8	mg/L	0	15/31	GRAB
	PERMIT REQUIREMENT				0	10	15				
PHENOLS	SAMPLE MEASUREMENT				.05	.17	.5	mg/L	0	15/31	GRAB
	PERMIT REQUIREMENT				0	.5	.7				
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER	I CERTIFY UNDER PENALTY OF LAW THAT I HAVE PERSONALLY EXAMINED AND AM FAMILIAR WITH THE INFORMATION SUBMITTED HEREIN, AND BASED ON MY INQUIRY OF THOSE INDIVIDUALS IMMEDIATELY RESPONSIBLE FOR OBTAINING THE INFORMATION, I BELIEVE THE SUBMITTED INFORMATION IS TRUE, ACCURATE AND COMPLETE. I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION, INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT, SEE 18 U.S.C. § 1001 AND 33 U.S.C. § 1319. (Penalties under these statutes may include fines up to \$10,000 and or maximum imprisonment of between 6 months and 5 years.)	TELEPHONE		DATE		
		503-286-3681		97	04	17

R.D. COLLINS, V.P.	TYPED OR PRINTED	Amos Kamerer, Plt. Mgr.	SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT	AREA CODE	NUMBER	YEAR	MO	DAY

COMMENT AND EXPLANATION OF ANY VIOLATIONS (Reference all attachments here)

first quarter PAH test results are attached; SEE LETTER ATTACHED

- ON December 23, 1996 - PAH sample taken

Coffey labs. reported the results as MG/L, rather than  
UG/L and we did not notice AND <sup>we</sup> thought the total

was 101.4. we pumped it and attached the  
report to the December DMR Actual = 101,400 UG/L

Read it  
quickly

- ON March 6, 1997 - PAH sample taken

Columbia inspection also reported the results as MG/L  
and again we didn't notice the change. The results

were 1.7 and we pumped again, thinking everything  
was ok Actual = 1654 UG/L

talked  
to the labs  
to report  
in consistent  
units

- ON this past Monday April 14, I started to do the March  
DMR and realized that Columbia's report showed  
the results in decimals. I called to inquire why and  
realized the problem. I then became concerned  
about the reason and was I still in non-compliance.  
Another sample was taken Tuesday and the results  
received yesterday show we are in compliance - 63 UG/L

- ~~WE ARE SURE WE NOW KNOW THE REASON - explain  
new discharge system and ground water down at T-6?  
in early October -~~

Thought about this, can't come up with any definitive reason and  
wonder how it could have been this high and wonder if the  
analysis was correct. I'll confirm this in everything  
initiated about the Dec. DMR

# KOPPERS INDUSTRIES

**Amos S. Kamerer**  
Plant Manager

Koppers Industries, Inc.  
7540 N.W. St. Helens Road  
Portland, OR 97210-3663

Telephone: 503-286-3681  
Fax: 503-285-2831

November 5, 1996

Mr. Matthew J. Maloney, P.G.  
FLUOR DANIEL GTI  
637 Braddock Ave.  
East Pittsburgh, PA 15112

Re: Information Request  
Waste Water Discharges

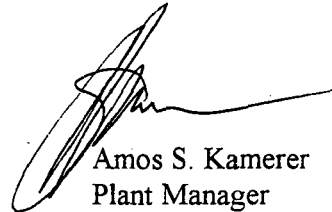
Dear Mr. Maloney,

This is in response to your Oct. 30, 1996 memo. I have included a property site plan and corresponding tank listing for reference purposes.

- 1) There is only one outfall in the plant that is not listed in our NPDES permit. This is a stormwater drain in the middle of the plant entrance yard and is far removed from any of our storage, loading or unloading operations. This drain is piped directly to the NPDES listed outfall location and is marked on the site plan in red.
- 2) No products are produced or treated at this facility, we are a terminal only, thus we do not produce any wastewater streams. All of the water discharged through our NPDES permit is storm water and steam boiler blow down water only. We do not have any water treating facilities and we have never exceeded our permit limits. We only have one SIC code: 2865, Cyclic Crudes and Intermediates.

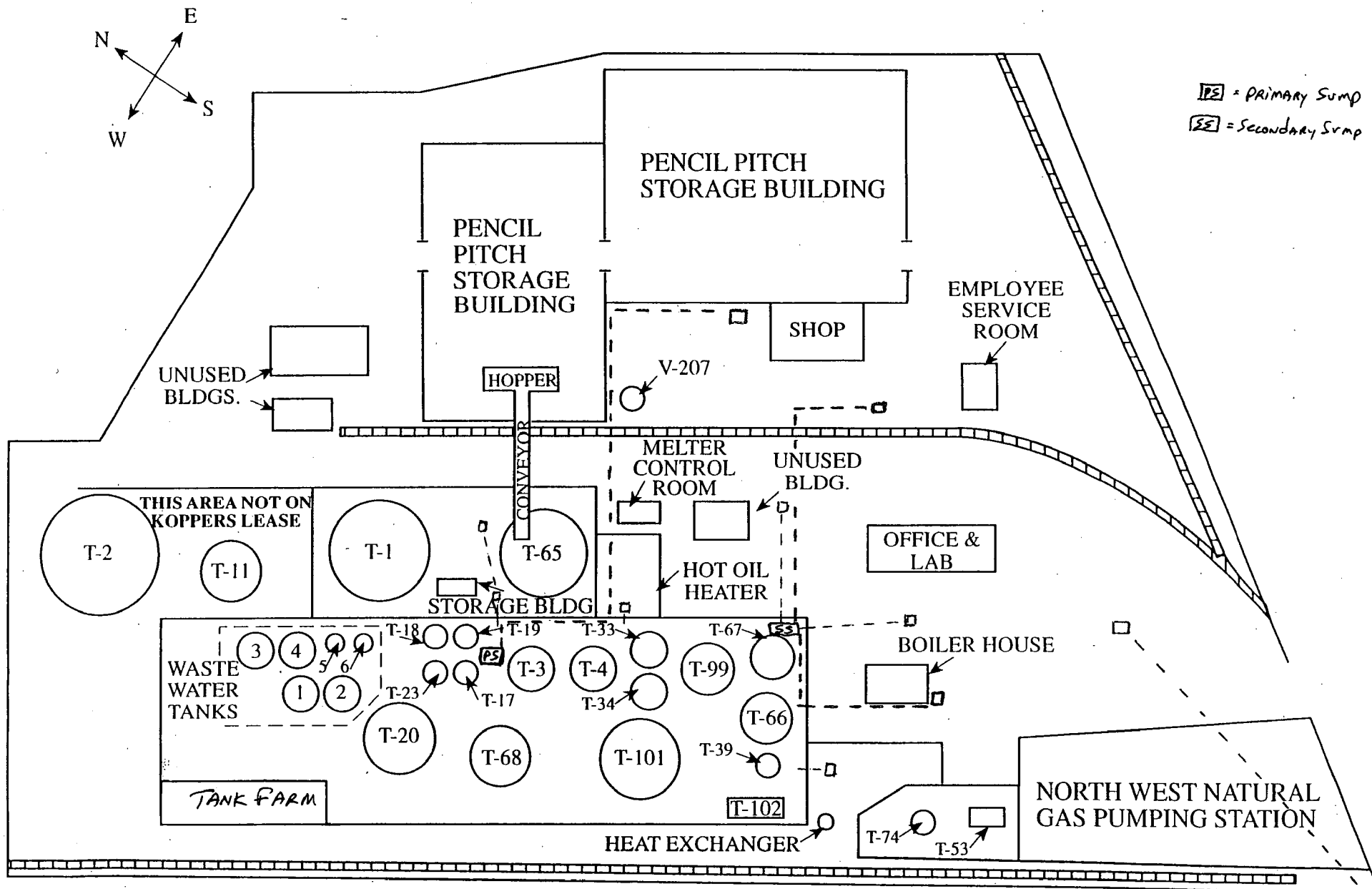
Koppers001072

- 3) About 70% of the plant is black topped, which includes all of the loading and unloading operations within the plant. Only the tank farm and some sparsely used areas are not black topped. All of the drains in the plant feed into the tank farm, these are marked on the site plan in blue. In addition, we have 3 collection sumps that also feed into the farm, these are marked on the site plan in green. In the tank farm, we have one secondary sump pump located in the Northeast corner, that feeds the primary sump pump. The Northeast corner is the low point in the tank farm, thus this secondary sump pump helps keep this area dry. The primary sump pump feeds the storage tanks, for sampling prior to testing and discharge.
- 4) The requested DMRs are attached.



Amos S. Kameron  
Plant Manager

cc: W.E. Swearingen, KII  
S.T. Smith, KII  
J.H. Cox, DMC



PROPERTY SITE PLAN

## TANK LISTING TABLE



Koppers Industries, Inc., Northwest Terminal, Portland, Oregon

<u>Tank No.</u>	<u>Contents</u>	<u>Capacity</u>
1.	Empty-out of service	660 M
2.	Not on lease	1065 M
3.	Methyl Solvent	99 M
4.	Lite Uncorrected Creosote	99 M
11.	Not on Lease	254 M
12.	Not on Lease	57 M
13.	Empty--Out of Service	20 M
17.	P1 / P13 Creosote	20 M
18.	Empty--Out of Service	20 M
19.	Priming & Refractory Oil	20 M
20.	R.T. Creosote Bottoms	317M
23.	Lite Unc. Creosote	20 M
27.	Empty--Out of Service	20 M
33.	Heavy Oil--Pitch & Creosote	45 M
34.	N.S.R.	45 M
39.	P1 / P13 Bottoms	20 M
53.	Empty--Out of Service	10 M
65.	Pitch Melter Tank	761 M
66.	Empty-Out of Service	191 M
67.	P1 / P13 Creosote	102 M
68.	Pitch Storage and Shipping Tank	245 M
74.	Empty-Out of Service	20 M
99.	Creosote Bottoms	209 M
101.	Empty-Out of Service	758 M
102.	Fume Tank	10 M
WW #1	Water-Effluent	45 M
WW #2	Water-Effluent	45 M
WW #3	Water-Effluent	45 M
WW #4	Water-Effluent	45 M
WW #5	Water-Effluent	20 M
WW #6	Water-Effluent	20 M

V 207	Empty-Out of Service
-------	----------------------



PERMITTEE NAME/ADDRESS (Include Facility Name/Location if different)

NAME **KOPPERS INDUSTRIES INC.**

ADDRESS **7540 NW ST HELENS RD.**

**PORTLAND, OR 97210**

FACILITY **NORTHWEST PLAND**

LOCATION **MULTNOMAH COUNTY**

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)

DISCHARGE MONITORING REPORT (DMR)

(2-16)

(17-19)

OR-100077-9

PERMIT NUMBER

001

DISCHARGE NUMBER

3077-J

47430

Form Approved  
OMB No. 2040-0004  
Expires 3-31-88

MONITORING PERIOD

YEAR	MO	DAY	TO	YEAR	MO	DAY
93	6	1		93	6	30
(20-21)	(22-23)	(24-25)		(26-27)	(28-29)	(30-31)

NOTE: Read instructions before completing this form.

PARAMETER (32-37)	<div></div>	(3 Card Only) QUANTITY OR LOADING (46-53)			(4 Card Only) QUALITY OR CONCENTRATION (38-45)				NO. EX (62-63)	FREQUENCY OF ANALYSIS (64-68)	SAMPLE TYPE (69-70)
		(46-53)			(38-45)						
		AVERAGE	MAXIMUM	UNITS	MINIMUM	AVERAGE	MAXIMUM	UNITS			
FLOW	SAMPLE MEASUREMENT	3000		GPO					M/A	2/30	EST.
	PERMIT REQUIREMENT		N/A								
TEMP	SAMPLE MEASUREMENT				64	64	64	OF	0	2/30	GRAB
	PERMIT REQUIREMENT										
PH	SAMPLE MEASUREMENT				6.3	6.4	6.5	SU	0	2/30	GRAB
	PERMIT REQUIREMENT				6.0		9.0				
OIL & GREASES	SAMPLE MEASUREMENT				ND	<1.5	<3.0	MG/L (PPM)	0	2/30	GRAB
	PERMIT REQUIREMENT					10	15				
PHENOLS	SAMPLE MEASUREMENT				ND	ND	ND	(MG/L) PPM	0	2/30	GRAB
	PERMIT REQUIREMENT					0.5	0.7				
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER

AMOS S. KAMERER  
PLANT MANAGER

TYPED OR PRINTED

I CERTIFY UNDER PENALTY OF LAW THAT I HAVE PERSONALLY EXAMINED AND AM FAMILIAR WITH THE INFORMATION SUBMITTED HEREIN, AND BASED ON MY INQUIRY OF THOSE INDIVIDUALS IMMEDIATELY RESPONSIBLE FOR OBTAINING THE INFORMATION, I BELIEVE THE SUBMITTED INFORMATION IS TRUE, ACCURATE AND COMPLETE. I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION, INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT SEE 18 USC § 1001 AND 33 USC § 1319. (Penalties under these statutes may include fines up to \$10,000 and/or maximum imprisonment of between 6 months and 5 years.)

SIGNATURE OF PRINCIPAL EXECUTIVE

OFFICER OR AUTHORIZED AGENT

TELEPHONE

503 286-3681

AREA CODE

NUMBER

DATE

93 08 18

YEAR MO DAY

COMMENT AND EXPLANATION OF ANY VIOLATIONS (Reference all attachments here)

PERMITTEE NAME/ADDRESS (Include Facility Name/Location if different)  
**NAME** KOPPERS INDUSTRIES, INC.  
**ADDRESS** 7540 NW ST HELENS ROAD  
PORTLAND, OR 97210

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)  
**DISCHARGE MONITORING REPORT (DMR)**

(2-16)  
OR-100077-9

PERMIT NUMBER

(17-19)  
0004

DISCHARGE NUMBER

3077-J  
47430

Form Approved.  
OMB No. 2040-0004.  
Approval expires 6-30-91.

**FACILITY** NORTHWEST PLANT  
**LOCATION** MULTNOMAH COUNTY

MONITORING PERIOD							
FROM	YEAR	MO	DAY	TO	YEAR	MO	DAY
	94	04	01		94	04	30
	(20-21)	(22-23)	(24-25)		(26-27)	(28-29)	(30-31)

NOTE: Read instructions before completing this form.

PARAMETER (32-37)		(3 Card Only) QUANTITY OR LOADING (46-53)			(4 Card Only) QUALITY OR CONCENTRATION (38-45)			NO. EX (62-63)	FREQUENCY OF ANALYSIS (64-68)	SAMPLE TYPE (69-70)	
		AVERAGE	MAXIMUM	UNITS	MINIMUM	AVERAGE	MAXIMUM				
FLOW	SAMPLE MEASUREMENT	6,000							N/A	4/30	EST.
	PERMIT REQUIREMENT	N/A	N/A								
TEMPERATURE	SAMPLE MEASUREMENT				52	54	56		0	4/30	GRAB
	PERMIT REQUIREMENT				N/A	N/A	N/A				
pH	SAMPLE MEASUREMENT				6.5	6.6	6.8		0	4/30	GRAB
	PERMIT REQUIREMENT				6.0		9.0				
OIL & GREASES	SAMPLE MEASUREMENT				N.D.	3.5	8		0	4/30	GRAB
	PERMIT REQUIREMENT				N/A	10	15				
PHENOLS	SAMPLE MEASUREMENT				N.D.	.01	.05		0	4/30	GRAB
	PERMIT REQUIREMENT				N/A	.5	.7				
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
NAME/TITLE PRINCIPAL EXECUTIVE OFFICER		I CERTIFY UNDER PENALTY OF LAW THAT I HAVE PERSONALLY EXAMINED AND AM FAMILIAR WITH THE INFORMATION SUBMITTED HEREIN, AND BASED ON MY INQUIRY OF THOSE INDIVIDUALS IMMEDIATELY RESPONSIBLE FOR OBTAINING THE INFORMATION I BELIEVE THE SUBMITTED INFORMATION IS TRUE, ACCURATE AND COMPLETE. I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION, INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT SEE 18 USC § 1001 AND 33 USC § 1319. (Penalties under these statutes may include fines up to \$10,000 and/or maximum imprisonment of between 6 months and 3 years.)					TELEPHONE		DATE		
J. R. BATCHELDER, V.P. TYPED OR PRINTED							503 286-3681 AREA CODE NUMBER		94	05	10 YEAR MO DAY
COMMENT AND EXPLANATION OF ANY VIOLATIONS (Reference all attachments here)		A. KAMERER, Plant Mgr. SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT									

PERMITTEE NAME/ADDRESS (Include Facility Name/Location if different)  
NAME KOPPERS INDUSTRIES, INC.

ADDRESS 7540 NW ST HELENS ROAD  
PORTLAND, OR 97210

FACILITY NORTHWEST PLANT DEQ #47430  
LOCATION MULTNOMAH COUNTY

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)  
DISCHARGE MONITORING REPORT (DMR)

(2-16) 101003 PERMIT NUMBER  
(17-19) 05 DISCHARGE NUMBER

3077-J  
47430

Form Approved.  
OMB No. 2040-0004.  
Approval expires 6-30-91.

MONITORING PERIOD						
YEAR	MO	DAY	TO	YEAR	MO	DAY
95	05	01		95	05	31
(20-21)	(22-23)	(24-25)		(26-27)	(28-29)	(30-31)

NOTE: Read instructions before completing this form.

PARAMETER (32-37)		(3 Card Only) QUANTITY OR LOADING (46-53)			(4 Card Only) QUALITY OR CONCENTRATION (46-53)				NO. EX (62-63)	FREQUENCY OF ANALYSIS (64-68)	SAMPLE TYPE (69-70)
		AVERAGE	MAXIMUM	UNITS	MINIMUM	AVERAGE	MAXIMUM	UNITS			
FLOW	SAMPLE MEASUREMENT	7,097							N/A	2/31	EST.
	PERMIT REQUIREMENT	N/A	N/A								
TEMPERATURE	SAMPLE MEASUREMENT				60	61	62		0	2/31	GRAB
	PERMIT REQUIREMENT						110	F			
pH	SAMPLE MEASUREMENT				6.4	6.5	6.6		0	2/31	GRAB
	PERMIT REQUIREMENT				6.0		9.0	SU			
OIL & GREASE	SAMPLE MEASUREMENT				N.D.	2.5	5.0		0	2/31	GRAB
	PERMIT REQUIREMENT				N/A	10	15	mg/L			
PHENOLS	SAMPLE MEASUREMENT				N.D.	.03	.05		0	2/31	GRAB
	PERMIT REQUIREMENT				N/A	.5	.7	mg/L			
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER  
R. D. COLLINS, V. P.  
TYPED OR PRINTED

I CERTIFY UNDER PENALTY OF LAW THAT I HAVE PERSONALLY EXAMINED AND AM FAMILIAR WITH THE INFORMATION SUBMITTED HEREIN, AND BASED ON MY INQUIRY OF THOSE INDIVIDUALS IMMEDIATELY RESPONSIBLE FOR OBTAINING THE INFORMATION I BELIEVE THE SUBMITTED INFORMATION IS TRUE, ACCURATE AND COMPLETE. I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION, INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT SEE 18 USC § 1001 AND 33 USC § 1319. (Penalties under these statutes may include fines up to \$10,000 and/or maximum imprisonment of between 6 months and 5 years.)

A. S. KAMERER / KM  
A. S. KAMERER, PLANT MGR.  
SIGNATURE OF PRINCIPAL EXECUTIVE  
OFFICER OR AUTHORIZED AGENT

TELEPHONE  
503 286-3681  
AREA CODE NUMBER  
DATE  
95 06 09  
YEAR MO DAY

COMMENT AND EXPLANATION OF ANY VIOLATIONS (Reference all attachments here)

THE SECOND QUARTER PAH RESULTS ARE ATTACHED.

PERMITTEE NAME/ADDRESS (Include Facility Name/Location if different)  
**NAME** Koppers Industries, Inc.  
**ADDRESS** 7540 NW St Helens Road  
Portland, OR 97210

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)  
**DISCHARGE MONITORING REPORT (DMR)**

(2-16) 101003  
**PERMIT NUMBER**  
(17-19) 12  
**DISCHARGE NUMBER**

3077-J  
47430

Form Approved.  
OMB No. 2040-0004  
Approval expires 10-31-94

**FACILITY** Northwest Plant DEQ #47430  
**LOCATION** Multnomah County

**MONITORING PERIOD**  
FROM YEAR MO DAY TO YEAR MO DAY  
95 12 01 95 12 31  
(20-21) (22-23) (24-25) (26-27) (28-29) (30-31)

**NOTE: Read instructions before completing this form.**

PARAMETER (32-37)	X	(3 Card Only) (46-53) QUANTITY OR LOADING (34-61)			(4 Card Only) (38-45) QUALITY OR CONCENTRATION (34-61)				NO. EX (62-63)	FREQUENCY OF ANALYSIS (64-68)	SAMPLE TYPE (69-70)
		AVERAGE	MAXIMUM	UNITS	MINIMUM	AVERAGE	MAXIMUM	UNITS			
Flow	SAMPLE MEASUREMENT	14,194		GPB					n/a	12/31	Est.
	PERMIT REQUIREMENT										
Temperature	SAMPLE MEASUREMENT				42	49	54	F	0	12/31	Grab
	PERMIT REQUIREMENT						110				
pH	SAMPLE MEASUREMENT				6.3	6.4	6.4	SU	0	12/31	Grab
	PERMIT REQUIREMENT				6.0		9.0				
Oil & Grease	SAMPLE MEASUREMENT				n.d.	n.d.	n.d.	mg/L	0	12/31	Grab
	PERMIT REQUIREMENT				n/a	10	15				
Phenols	SAMPLE MEASUREMENT				n.d.	.11	.10	mg/L	0	12/31	Grab
	PERMIT REQUIREMENT				n/a	0.5	0.7				
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
NAME/TITLE PRINCIPAL EXECUTIVE OFFICER		I CERTIFY UNDER PENALTY OF LAW THAT I HAVE PERSONALLY EXAMINED AND AM FAMILIAR WITH THE INFORMATION SUBMITTED HEREIN, AND BASED ON MY INQUIRY OF THOSE INDIVIDUALS IMMEDIATELY RESPONSIBLE FOR OBTAINING THE INFORMATION, I BELIEVE THE SUBMITTED INFORMATION IS TRUE, ACCURATE AND COMPLETE. I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION, INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT SEE 18 USC § 1001 AND 33 USC § 1319. (Penalties under these statutes may include fines up to \$10,000 and/or maximum imprisonment of between 6 months and 5 years.)									
R. D. Collins, V.P. TYPED OR PRINTED		APR 25 S. Kainerer, Plant Mgr. SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT				TELEPHONE 503 286-3681 AREA CODE NUMBER		DATE 96 01 02 YEAR MO DAY			

COMMENT AND EXPLANATION OF ANY VIOLATIONS (Reference all attachments here)

4th Quarter PAH test results are attached.

**TOTAL MECHANICAL INC.**

Mechanical Contractors and Engineers  
2410 S.E. 10TH AVENUE P.O. BOX 15099  
PORTLAND, OREGON 97215  
(503) 239-8121

**A****#19566**PAGE 1 OF 8

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\*\* F A A X X \*\*  
\*\* FFFF AAAAA X \*\*  
\*\* F A A X X \*\*  
\*\* F A A X X \*\*  
\*\*  
\*\*\*\*\*  
\* T R A N S M I T T A L T O \*  
\*\*\*\*\*

FROM: TOTAL MECHANICAL, INC.  
2410 S.E. 10 th  
P.O. BOX 15099  
PORTLAND, OR. 97215  
PHONE: 503-239-8121

FAX: 503-239 7254

NAME: Portland Oregon Bureau of BuildingsATTN: Nauman QuraishiSUBJECT: Pitch melting Project

\*\*\*\*\*  
\*\*\*\*\*  
MESSAGE One copy letter from Glumac reminding  
five Bureau letter.

Drawings for Shed Building

SENT BY: Chuck Foreman  
by Trinity Dutton

DATE: 12-20-91

GLUMAC & ASSOCIATES, INC.  
Consulting Engineers  
920 S.W. Third Avenue  
Suite 100  
Portland, Oregon 97204  
503/227-5280

Post-It<sup>®</sup> brand fax transmittal memo 7671 # of pages 5

To	Chuck Foreman	From	Jim Kaitaka
Co.	Total Mech	Co.	Glumac
Dept.		Phone #	
Fax #		Fax #	

December 6, 1991

City of Portland  
Fire Prevention Division  
55 S.W. Ash Street  
Portland, OR 97204-3590

Attention: Mr. John Deer, Senior Inspector  
Mr. Mike Bell, Inspector

Re: Koppers Industries, Inc.  
Pitch Melting Project  
7540 N.W. St. Helens Road  
Portland, Oregon

Gentlemen:

We are writing to provide additional information requested by you on the Koppers Pitch Melting project at 7540 N.W. St. Helens Road. Plans were submitted for approval by Mr. Chuck Foreman of Total Mechanical.

1. We have included an 8-1/2"x11" site plan showing relationship of areas to St. Helens Road and entrance roadway.
2. The new diked area for containment of the hot oil, should a leak in the system develop near the heater, header, pumps, or expansion tank, is shown on sheet M-5. It consists of a 6" high concrete curb around the outer perimeter of the concrete slab. We are including calculations showing that the containment volume exceeds volume of hot oil system including a 1.5 safety factor.

City of Portland  
Fire Prevention Division  
December 6, 1991  
Page 2

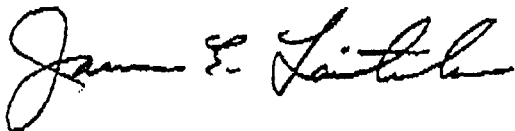
The drain in the new containment area will be valved and will allow oil to be drained by gravity to sump pumps located in the large dike area noted on sheet M-3. The sump pumps can discharge into four large 45,000 gallon waste water holding tanks. See attached site plan for locations.

3. The expansion tank for the hot oil system will have a 1-1/2" vent open to atmosphere. It is elevated approximately 24 feet above grade to be the highest point in the system. It is not rated but is constructed of 1/4" thick plate around sidewalls and 3/8" thick plate on end walls. The tank is designed as a double leg system with an inlet and outlet leg for system start up. After the system is brought up to approximately 230° F and all moisture is evaporated and vented out of the system through the expansion tank vent, one leg of the tank is valved off and the tank functions as an ordinary expansion tank allowing for expansion of the hot oil. The tank will not be insulated as the ambient temperature oil in the tank will act as a cold plug to prevent any high temperature fumes from escaping through the open vent pipe.
4. The expansion tank support legs will be insulated to provide protection. It is expected that oil temperature within the tank should normally be at or just above ambient temperature except when in the start up mode, as previously described.
5. Snubbing steam activation gate valves will be relocated to allow operation from point outside of the containment areas.
6. The temperature of melted pitch in tanks T-65 and T-68 will be maintained at 350° F. The hot oil heater control panel will include controls to monitor and control the temperature of both tanks as well as control the operation of the hot oil pumps. The hot oil heater controls will include high stack temperature cutout, high oil temperature cutout, hi-low gas pressure alarms, oil level alarm, oil flow switch, etc. A copy of wiring and control system drawings will be forwarded to you when completed.

City of Portland  
Fire Prevention Division  
December 6, 1991  
Page 3

We trust this information will meet with your needs. Please call if you have any additional questions or concerns.

Regards,



James E. Laitala P.E., CIPE  
Senior Mechanical Engineer

cc: Mr. John Oxford, Koppers  
Mr. Ed Bennett, Koppers  
Mr. Chuck Foreman, Total Mechanical

JEL:bd  
991P51A.L1



Koppers  
12-3-91

### Hot Oil Containment Calculations

MAXIMUM OF 2000 gallon in Expansion tank  
plus 2002 gallons in hot oil piping systems  
equals 4002 gallons total.

$4002 \div 7.48 = 535 \text{ CU. FT. Req'd to contain oil.}$

(USE 1.5 SAFETY FACTOR)  $535 \times 1.5 = \underline{802.5 \text{ CU. FT. Req'd}}$

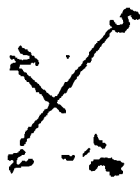
AREA INSIDE CURB IS  $31.5' \times 56'$  OR  $1764 \text{ sq. ft.}$

Heater, pumps & TANK PADS EQUAL  $242 \text{ sq. ft.}$

$1764 - 242 = 1522 \text{ sq. ft.} \times 6" \text{ high CURB} = 761 \text{ CU. FT.}$

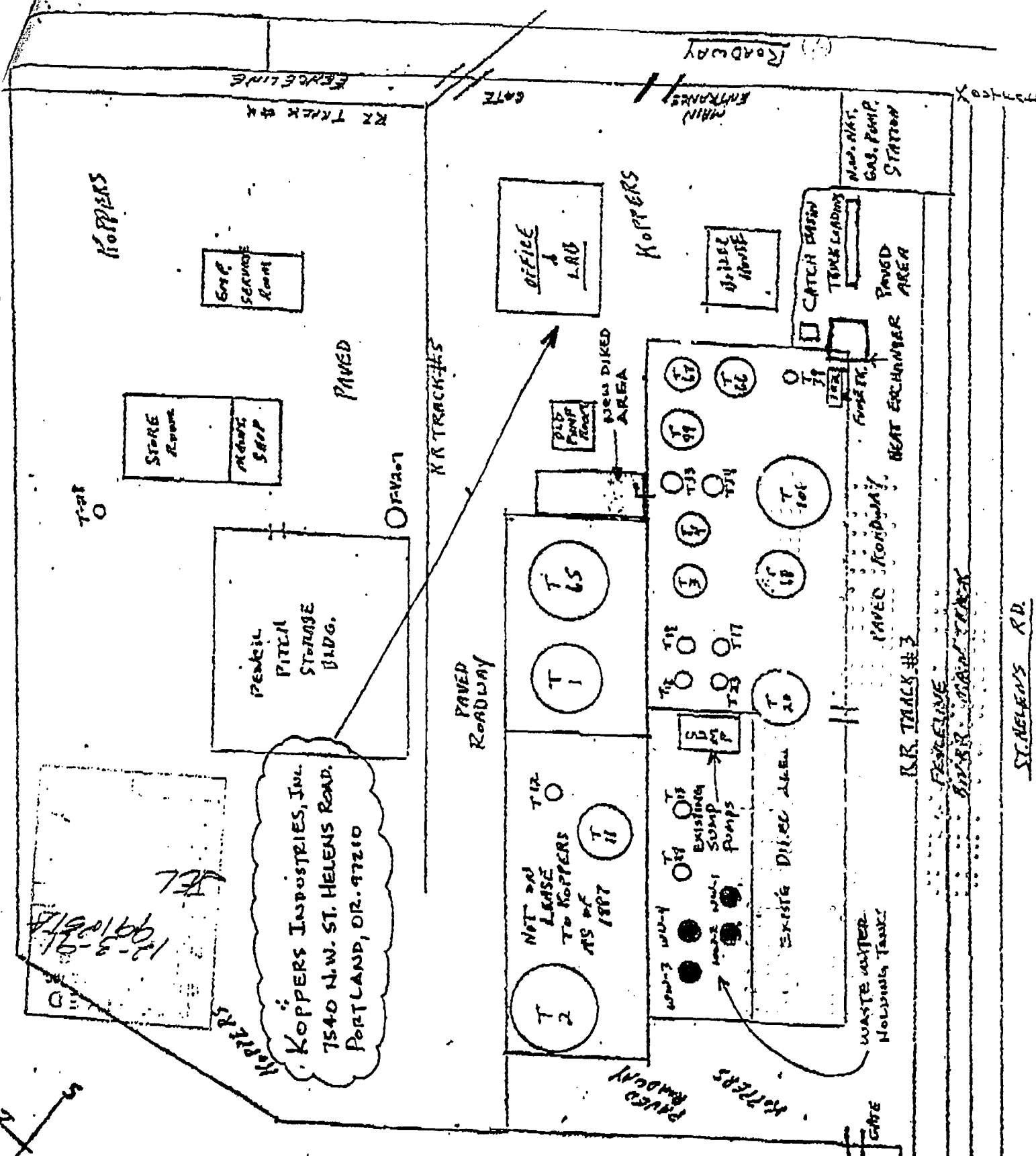
SLOPE TO DRAIN @ 3" PROVIDES ADDITIONAL 220 CU. FT.

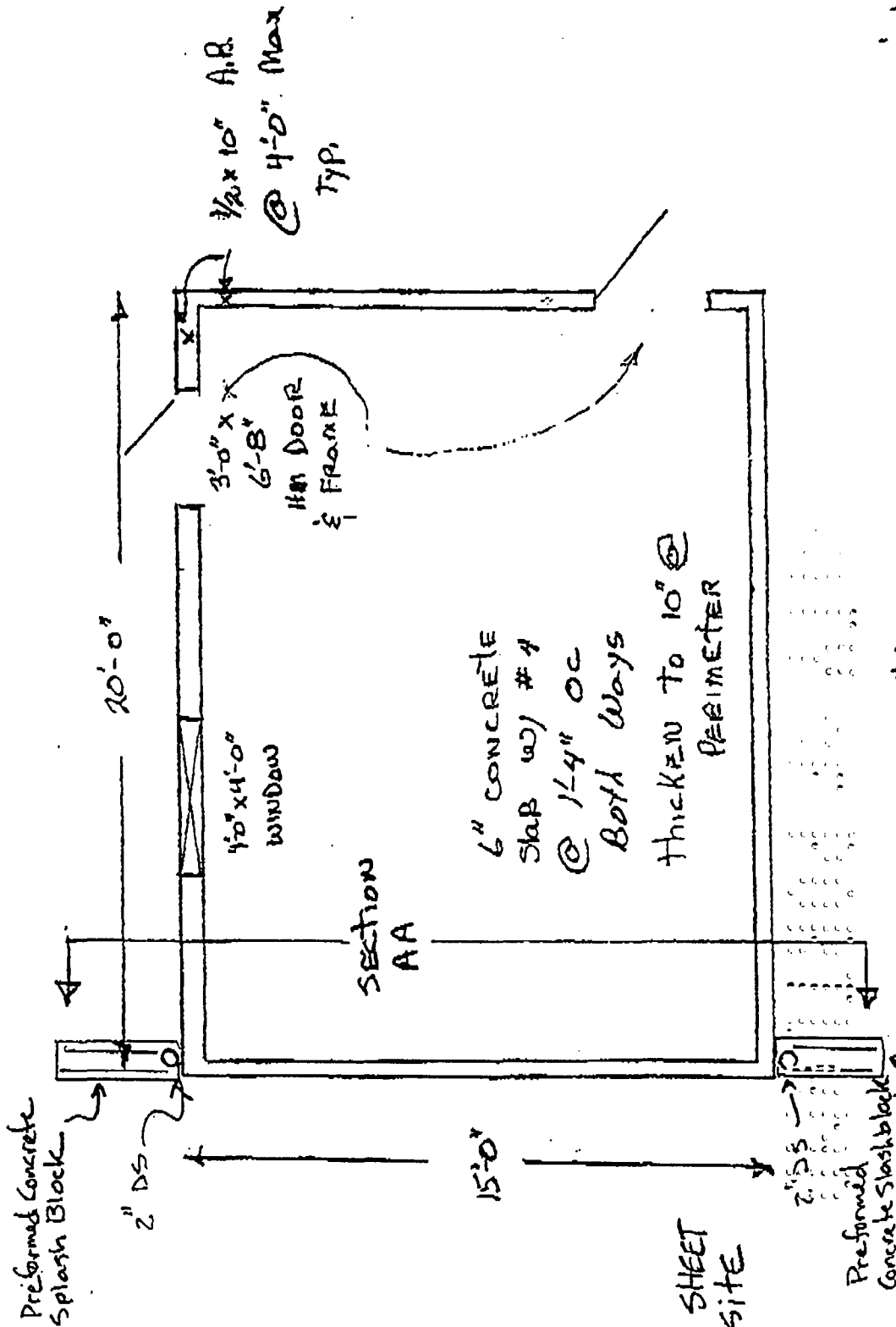
TOTAL CONTAINMENT VOLUME =  $761 + 220 = \underline{981 \text{ CU. FT.}}$



Post-it brand fax transmittal memo 7671	12-3-91
To: <i>Mr. [illegible]</i>	From: <i>Mr. [illegible]</i>
CC: <i>Mr. [illegible]</i>	Phone: <i>[illegible]</i>
Dept: <i>[illegible]</i>	Fax: <i>[illegible]</i>

N.W. NAT  
GAS  
CO.





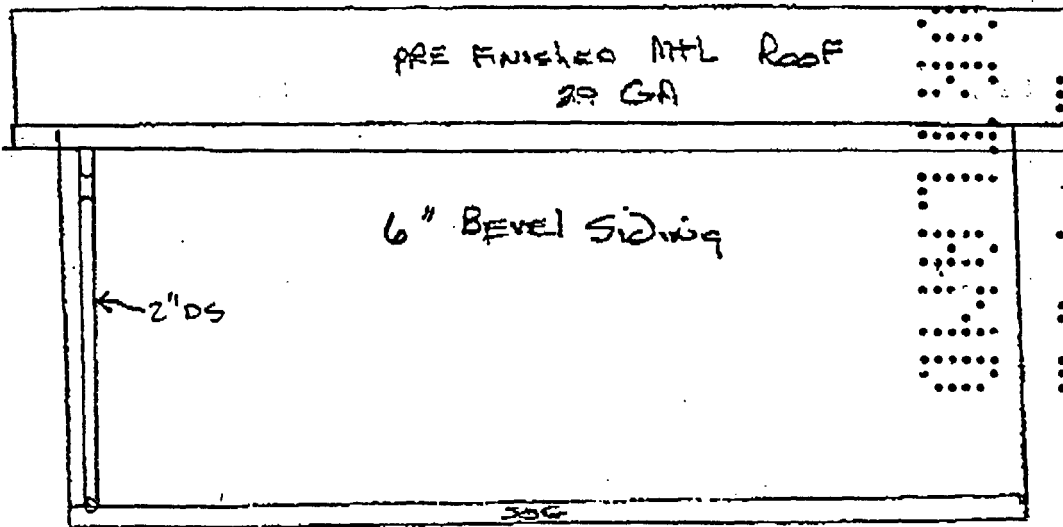
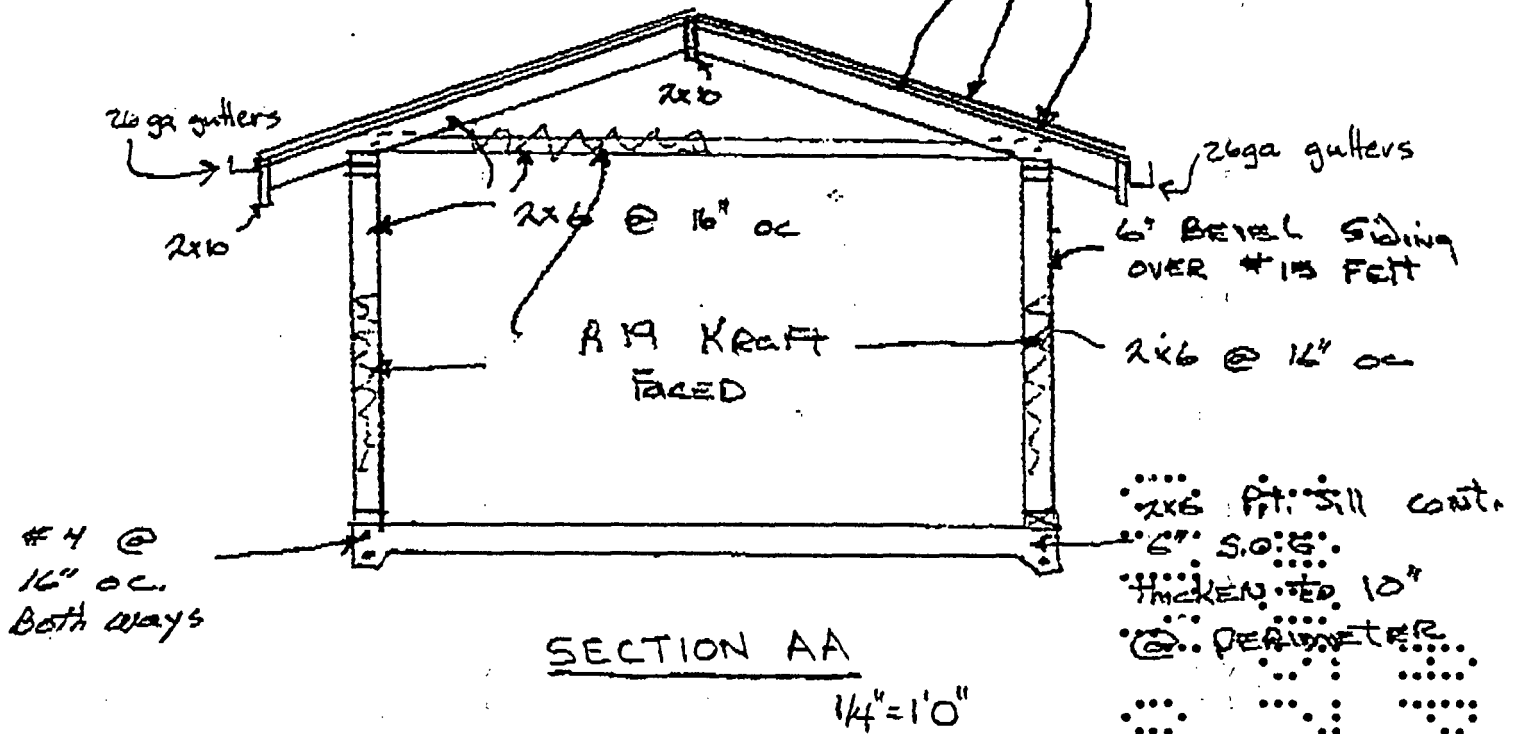
NOTES:  
1. REFER TO SHEET M-5 FOR SITE LOCATION

TOTAL MECHANICAL  
2410 SE 10th  
PORTLAND OR

CONTROL BUILDING  
PITCH MELTING PROCESS  
FOR  
KOPPERS INDUSTRIES  
7540 NW ST HELENS  
PORTLAND OR

SHEET A-1 12/06/91

29 GA PRE FINISHED MTL  
ROOF OVER 1x4 STRIPPING  
OVER #16 FET OVER 1/2" CDX



EAST ELEVATION

1/4" = 1'0" CONTROL BUILDING  
PITCH MELT PROCESS  
FOR  
KOPPERS INDUSTRIES  
7540 NW STEHELEN

TOTAL MECHANICAL  
2410 SE 10<sup>th</sup>

SHEET A-2

COPY

LEASE AGREEMENT

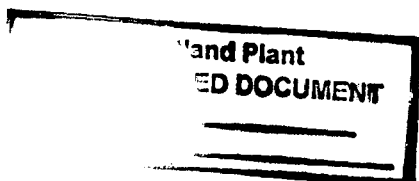
BETWEEN

NORTHWEST NATURAL GAS COMPANY,  
dba NW Natural,  
as Landlord

and

KOPPERS INDUSTRIES, INC.,  
as Tenant

as of October 1, 1998



RECEIVED

NOV 16 1998

KOPPERSINDS, INC.  
PORTLAND, OR

## BASIC LEASE INFORMATION

Lease Date: October 1, 1998

Landlord: Northwest Natural Gas Company, dba  
NW Natural

Address of Landlord: 220 NW Second Avenue  
Portland, Oregon 97209  
Attention: Manager: Risk, Environmental  
and Land

All Payments Made To: 220 NW Second Avenue  
Portland, Oregon 97209  
Attention: Manager: Risk, Environmental  
and Land

Tenant: Koppers Industries, Inc.

Address of Tenant: 7540 NW St. Helens Road  
Portland, Oregon 97210

Contact: Amos Kamerer

Premises: That section of the real property identified on  
Exhibit B to the Lease, and such portions of  
Landlord's Plant Property required for the  
Dock Improvements.

Lease Term: Number of Months: 120  
Scheduled Commencement Date: 10/01/1998  
Expiration Date: 09/30/2008

Rent: \$9,900.00 per month for the initial term

Special Provisions: Two five-year renewal terms; option to  
construct additional improvements and modify  
Landlord's existing docking facility.

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## LEASE AGREEMENT

THIS LEASE AGREEMENT (this "Lease") is made and entered into effective as of September 1, 1998, by and between NORTHWEST NATURAL GAS COMPANY (dba NW Natural), an Oregon corporation ("Landlord"), and KOPPERS INDUSTRIES, INC., a Pennsylvania corporation ("Tenant").

### RECITALS

A. Landlord owns certain real property located in Portland, Multnomah County, Oregon, more particularly described in Exhibit A ("Landlord's Plant Property"), a portion of which is used by Landlord to conduct its liquid natural gas operations and a portion of which is currently leased to Tenant pursuant to the Prior Lease (as defined below). Portions of Landlord's Plant Property are also leased to other tenants from time to time.

B. Landlord desires to continue to lease to Tenant that portion of Landlord's Plant Property currently occupied by Tenant and such additional portions of the Landlord's Plant Property required for the Dock Improvements, and Tenant desires to lease the same from Landlord, on the terms and conditions set forth below.

### AGREEMENT

Landlord and Tenant therefore agree as follows:

#### 1. DEFINITIONS

As used in this Lease, the following terms shall have the following respective meanings:

"Dock Improvements" has the meaning specified in Section 5.2.

"Docking Facility" has the meaning specified in Section 5.2.

"Environmental Laws" means all state, federal and local statutes, regulations and ordinances relating to the protection of human health and the environment.

"Existing Environmental Liabilities" means the liability of Landlord, and Koppers Company, Inc. (now known as Beazer East, Inc. and the previous tenant under the Prior Lease) for certain environmental contamination of Landlord's Plant Property, as established and allocated pursuant to an agreement between Landlord and Beazer East, Inc..

"Existing Improvements" has the meaning specified in Section 5.1.

"Existing Mortgage" means the Mortgage and Deed of Trust dated July 1, 1946, and recorded in the Mortgage Records of Multnomah County, Oregon, on July 19, 1946 at Book 911, Page 203, as modified encumbering Landlord's Plant Property.

"Governmental Requirements" means any and all laws, statutes, ordinances, rules, orders, requirements, resolutions, policy statements and regulations of any federal, state or local governmental or quasi-governmental bodies or agencies having jurisdiction over the Landlord's Plant Property or the business and operations conducted by any party on any portion of Landlord's Plant Property.

"Hazardous Material" means any hazardous or toxic substance, material or waste, including, but not limited to, those substances, materials and wastes listed in the United States Department of Transportation Hazardous Materials Table (49 C.F.R. § 172.101) or by the United States Environmental Protection Agency as hazardous substances (40 C.F.R. pt. 302 and amendments thereto), petroleum products and their derivatives, and such other substances, materials and wastes as become regulated or subject to cleanup authority under any Environmental Laws.

"Landlord's Plant Property" has the meaning specified in Recital A.

"Lease Term" means the initial term of this Lease, as extended by any renewal terms.

"Real Property Taxes" means all taxes, assessments (general and special) and other charges that may be imposed on or against all or any portion of or in relation to the Premises, any leasehold estate in the Premises or measured by rent from the Premises. "Real Property Taxes" also includes any assessment, charge or tax (other than estate, inheritance, net income or franchise taxes) imposed by any authority having a direct or indirect power to tax or charge, including, without limitation, any city, county, state, federal or any improvement or other district.

"Premises" means that portion of Landlord's Plant Property consisting of all of Tax Lot 111 as more particularly described and depicted in Exhibit B and such portions of Landlord's Plant Property required for the Dock Improvements.

"Prior Lease" means the Lease dated August 17, 1965, between Landlord and Koppers Company, Inc. (now known as Beazer East, Inc.), recorded in the Records of Multnomah County, Oregon, on September 7, 1965 at Book 373, Page 271, the tenant's interests and obligations thereunder having been assigned to and assumed by Tenant by instrument dated March 13, 1989 and recorded in the Records of

Multnomah County, Oregon, at Book 2185, Page 289, as such Lease has been previously amended and as affected by the allocation of Existing Environmental Liabilities.

## **2. LEASE OF PREMISES; TERM**

### **2.1 Premises; Demising Clause**

Landlord hereby leases to Tenant, and Tenant hereby leases from Landlord, the Premises on the terms and conditions set forth in this Lease. Tenant acknowledges that other tenants of Landlord from time to time may use the loading and unloading facilities located along the southeasterly boundary of the Premises.

### **2.2 Initial Term of Lease**

The initial ten (10) year term of this Lease shall commence on October 1, 1998, and shall end at 11:59 P.M. on September 30, 2008. The Prior Lease shall terminate on the commencement date of this Lease; provided, however, such termination shall not release or otherwise affect Tenant's obligations with respect to any environmental condition of Landlord's Plant Property caused by Tenant or Beazer East, Inc. under the Prior Lease in connection with operations on the Premises under this Lease or the Prior Lease or any party's obligations with respect to the Existing Environmental Liabilities. Tenant may terminate this Lease at any time during the initial term or any renewal term hereof upon giving twelve (12) months' prior written notice to Landlord. Any such termination shall not affect any amount of rent due and owing under this Lease up to the effective date of such termination or affect any liability of Tenant under Environmental Laws.

### **2.3 Renewal Terms**

If there is no default under this Lease when each option is exercised or when the renewal term is to commence, then Tenant shall have the option to renew this Lease for two (2) successive terms of five (5) years each, as follows:

**2.3.1** Each renewal term shall commence on the day following expiration of the immediately preceding term.

**2.3.2** Tenant shall exercise the renewal option, if at all, by written notice to Landlord given not less than one hundred eighty (180) days before the applicable renewal term begins. Tenant may exercise its option to renew for the second renewal term if (a) Tenant timely exercises its renewal option, and (b) Tenant leased the Premises for the immediately preceding renewal term. If Tenant gives such

notice, then this Lease shall be binding for the applicable renewal term without further act of the parties.

**2.3.3** The terms and conditions applicable to Tenant's leasing of the Premises for each renewal term shall be as set forth in this Lease with respect to the initial term, except for rent and except that Tenant may not renew this Lease for the renewal term that has been exercised. Rent for each renewal term shall be subject to adjustment as provided in Section 4.2 below.

### **3. USE**

Tenant is authorized to use the Premises for purchasing, loading and unloading, storing, processing and selling coal tar, products derived from coal tar and petroleum pitch, and for other purposes incidental and directly related to such operations, including, but not limited to, incidental office space and parking for its employees and visitors. Tenant shall not use the Premises for any other purpose without the prior written consent of Landlord, which will not be unreasonably withheld. Tenant shall have the right to install signs on the Premises identifying its operations, to the extent permitted by law. Tenant shall coordinate its use of the Docking Facility with Landlord and other tenants of Landlord's Plant Property. Landlord may, in its sole discretion, resolve any dispute among tenants regarding the time, duration, and nature of the use of the Docking Facility. Tenant may not perform any excavating or digging operation of any type or kind on the Premises without prior written notice to Landlord and without Landlord's prior written consent, which will not be unreasonably withheld.

### **4. RENT**

#### **4.1 Basic Monthly Rent**

Tenant shall pay as basic monthly rent to Landlord during the first five (5) years of the initial Lease Term the sum of \$9,900.00 per month (subject to adjustment as provided in Section 4.2 for the second five (5) years of the initial Lease Term and for any renewal terms, and subject to adjustment as provided in Section 5.2 with respect to any Dock Improvements made by Tenant). Rent shall be paid in advance on the first day of each calendar month, at Landlord's address set forth in Section 22.4 below, or at such other place as Landlord may designate in writing from time to time. Rent due for any partial month shall be prorated. Except as may be specifically provided otherwise herein, all rent shall be paid without billing and without prior demand or notice and without any deduction or offset.

#### **4.2 Rent During Second Five Years and During Renewal Terms**

The basic monthly rent shall be adjusted in accordance with this Section 4.2 on the first day of the sixth (6th) year of the Lease Term and, if Tenant has exercised its renewal options with respect thereto on the first day of each renewal term of this Lease, the basic monthly rent shall be adjusted in accordance with this Section 4.2. Each such adjustment date is hereinafter referred to as a "Rent Adjustment Date". The base for computing such increases is the Consumer Price Index All Urban Consumers U.S. City Average (1982-84 = 100), published by the United States Department of Labor, Bureau of Labor Statistics ("Index"), in effect on November 1, 1997 ("Beginning Index"). The Index published and in effect on the date that is two (2) months prior to each Rent Adjustment Date ("Adjustment Index") is to be used in determining the amount of the increase on such Rent Adjustment Date. Beginning with the basic monthly rent due on and after the first Rent Adjustment Date, and on and after each subsequent Rent Adjustment Date, the basic monthly rent due shall be increased by an amount equal to the product achieved by multiplying the basic monthly rent in effect immediately preceding such Rent Adjustment Date by a fraction. On the first Rent Adjustment Date, the numerator of the fraction will be the Adjustment Index and the denominator will be the Beginning Index. On the second and each subsequent Rent Adjustment Date, the numerator of the fraction will be the current Adjustment Index and the denominator will be the Adjustment Index used to calculate the immediately preceding rental increase pursuant to this Section 4.2. In no event, however, shall any adjustments made under this Section 4.2 cause the basic monthly rent to be reduced below the basic monthly rent amount most recently in effect. If the Index is changed so that the base year index differs from that in effect on November 1, 1997, the Index shall be converted in accordance with the conversion factor published by the United States Department of Labor Bureau of Labor Statistics. If the Index is discontinued or revised during the Term, such other government index or computation with which it is replaced, as agreed to by both parties to this Lease, shall be used in order to obtain substantially the same result as would be obtained if the Index had not been discontinued or revised.

By way of example, but not by way of limitation, for the rental adjustment taking place on January 1, 2003, the Index in effect for November 2002 shall be compared to the Index in effect for the month of November 1997. For the adjustment taking place with respect to the first renewal term on January 1, 2008, the parties will compare the Index in effect for November 2007 to the Index for November 2002.

#### **4.3 Additional Rent**

All other costs, charges and reimbursements that Tenant is required elsewhere in this Lease to pay, and any other sum that Tenant is required to pay to Landlord or

third parties in connection with this Lease, shall constitute additional rent under this Lease. All delinquent rent shall bear interest at the rate of nine percent (9)% per annum from the date due until paid.

## **5. LEASEHOLD IMPROVEMENTS AND PERSONAL PROPERTY**

### **5.1 Existing Improvements**

Pursuant to the Prior Lease, Tenant constructed and is in possession of substantial improvements on the Premises (the "Existing Improvements"). Tenant shall accept possession under this Lease of the Existing Improvements and any other improvements located on the Premises as of the date of this Lease in their current, AS IS, WHERE IS condition, without representation or warranty as to condition, fitness for purpose or any other representation or warranty by Landlord whatsoever, express or implied. Tenant may relocate, modify, dismantle and remove, or replace any of the Existing Improvements without Landlord's consent and, with Landlord's prior written consent, any other improvements on the Premises as of the date of this Lease (save and except the fire walls surrounding the light oil tank farm), which consent shall not be unreasonably withheld.

### **5.2 Future Leasehold Improvements--Modification of Existing Marine Petroleum Terminal**

Landlord acknowledges that Tenant intends to modify Tenant's operations at the Premises to use liquid coal tar pitch, in addition to or in place of solid coal tar pitch. As part of this change in Tenant's operations, Tenant wishes to construct additional improvements to Tenant's Existing Improvements and to modify Landlord's existing docking facility (consisting of a crane, a wharf, the dock, and any improvements, additions, or replacements thereto, together defined as the "Docking Facility") located on the northerly boundary of Landlord's Plant Property. The additional improvements contemplated by Tenant to the Docking Facility are referred to collectively as the "Dock Improvements." If the Dock Improvements are constructed, the basic monthly rent payable by Tenant to Landlord shall be increased by \$100.00 per month as a result of Tenant's increased use of Landlord's Plant Property. Landlord shall cooperate with Tenant as reasonably necessary to allow Tenant to construct the Dock Improvements, at Tenant's sole cost and expense, subject to the following limitations:

**5.2.1** Prior to any construction of the Dock Improvements by or for Tenant, Landlord and Tenant shall reach substantial written agreement regarding the scheduling and level of use of the Docking Facility by Tenant and Landlord, and any other tenant or subtenant of Landlord at Landlord's Plant Property; provided, however,



that the Docking Facility but not the Dock Improvements shall be deemed to be a common area and may be used by other tenants of Landlord in addition to Tenant.

5.2.2 Tenant shall construct the Dock Improvements, if at all, substantially as and where described in the U. S. Army Corps of Engineers Portland District Public Notice for Permit Application No. 97-903 issued July 30, 1997, a copy of which is attached hereto as Exhibit C;

5.2.3 Tenant shall, upon five (5) days' written request from Landlord, provide Landlord with the most current copies of any and all plans, specifications, and drawings for the Dock Improvements, including any "as-built" survey;

5.2.4 Construction of the Dock Improvements shall not interfere with Landlord's operations at Landlord's Plant Property; and

5.2.5 Construction of the Dock Improvements shall not interfere with the operations of any existing or future tenant of Landlord's Plant Property.

### 5.3 Leasehold Improvements--General Requirements

5.3.1 Tenant, at its sole cost and expense, may construct on the Premises such other improvements and structures Tenant may wish in connection with a liquid or solid coal tar processing plant, provided Tenant first obtains Landlord's prior written consent, which consent shall not be unreasonably withheld.

5.3.2 With regard to any such other improvements made by Tenant, and with regard to the Dock Improvements described in Section 5.2 above, Tenant hereby covenants that (1) all improvements and structures shall be constructed in a good and workmanlike manner and in compliance at all times with all applicable Governmental Requirements; (2) if any mechanic's liens shall be filed against any portion of Landlord's Plant Property or any building or improvement thereon, Tenant shall, at its own cost and expense, cause the same to be canceled and discharged within thirty (30) days after notice of the filing thereof; and (3) if Landlord is required to appear at any hearing or other proceeding, to take any action, or review any document related in anyway to improvements constructed by Tenant (including any appearance at any land use or other hearing), Tenant shall pay to Landlord all costs and expenses incurred by Landlord related to such appearance, action, or review, including, without limitation, Landlord's costs for Landlord's employees and contractors, and all attorney fees.

5.3.3 All improvements, including the Existing Improvements and the Dock Improvements (except the Docking Facility and the items owned by Landlord or any existing or future tenant at the Premises that are currently located on the Premises) shall be deemed to be personal property of Tenant and shall remain the

property of Tenant during the Lease Term. At the expiration or earlier termination of this Lease, Tenant shall remove all Dock Improvements and all improvements located on the Premises, regardless of when or where built. If Tenant does not remove all improvements within one hundred eighty (180) days of the date of Landlord's notice, all improvements remaining on the Premises shall become Landlord's property, and Landlord may, in Landlord's discretion, remove all or some of such improvements at Tenant's expense, or may retain all or some of the improvements.

## **6. COMPLIANCE WITH LAW; PERMITS**

### **6.1 Compliance with Law**

Tenant shall, at Tenant's expense, comply with all applicable Governmental Requirements, covenants and restrictions of record, and requirements in effect during the Lease Term or any part thereof.

### **6.2 Permits**

Tenant shall obtain all approvals, consents, permits and licenses required under applicable Governmental Requirements for the conduct of Tenant's business on the Premises. Landlord will cooperate reasonably with Tenant's efforts to obtain the permits, but Tenant shall bear all costs of obtaining the permits.

## **7. LANDLORD'S ACCESS AND RESERVATION OF RIGHTS**

Landlord, its agents and employees, may enter the Premises at reasonable times to inspect the same, maintain, repair and/or replace existing utility lines, conduct any environmental remediation and monitor such work, and perform Landlord's obligations under this Lease. Landlord reserves the right to install additional utility or other lines, so long as such additional lines do not materially interfere with Tenant's operations on the Premises.

## **8. TAXES, UTILITIES AND OTHER FEES**

### **8.1 Real Property Taxes**

#### **8.1.1 Obligation to Pay**

Tenant shall pay promptly to Landlord, before the same become delinquent, all Real Property Taxes due during the Lease Term against the Premises or by reason of the use or occupancy thereof, and the amount of any increase in Real Property Taxes payable by Landlord attributable to Tenant's Dock Improvements. Real Property Taxes attributable to any partial year in the Lease Term shall be prorated.

### **8.1.2 LID Assessments**

Notwithstanding any contrary term in this Lease, for any special or local improvement district or similar tax or assessment levied or assessed on or against the Premises that can be paid in installments or that cover improvements with a useful life extending beyond the Lease Term, only the amount due and payable for the Lease year in question shall be included within "Real Property Taxes" for the Lease year.

### **8.1.3 Separate Tax Lot; Tax Bills**

The Premises are taxed as a separate tax lot with their own tax lot number. Landlord shall pay all tax bills for all portions of the Premises, and shall thereafter forward a copy of such tax bill to Tenant. Tenant shall pay to Landlord the full amount of each such tax bill within thirty (30) days of receiving notice from Landlord of the amount due. If any tax bill is sent to Tenant and not directly to Landlord, Tenant shall promptly deliver copies of such tax bill to Landlord.

### **8.1.4 Contests**

If Tenant in good faith believes any tax appraisal or assessment is excessive, and if there is a process for contesting or appealing such valuation, then Tenant may contest such appraisal or assessment and, to the extent possible, Landlord will cooperate with Tenant in such effort. Costs of the contest shall be borne by Tenant. The foregoing shall not limit Landlord's right to contest any such appraisal or assessment, at Landlord's own expense. Landlord and Tenant agree to cooperate in good faith with regard to any tax contest.

## **8.2 Personal Property Taxes**

Tenant will promptly pay all personal property taxes assessed on or with respect to Tenant's trade fixtures, equipment, and other personal property.

## **8.3 Utilities**

Tenant shall promptly pay for all utilities and services used in, on or from the Premises during the Lease Term. Tenant shall arrange and pay for its janitorial and trash removal services and other costs of operating and maintaining the Premises, it being understood that, except as expressly provided in this Lease, this Lease is a "net" lease and Tenant shall be responsible for all such expenses.

## **9. REPAIRS**

### **9.1 Tenant's Obligation**

Tenant shall maintain the Premises, all improvements, alterations and additions to the Premises, the Dock Improvements (if any), and all other personal property of Tenant located on or around the Premises or the Docking Facility in a good state of repair, and shall keep the same and all parts thereof in good, clean, healthful and safe order and condition, all in accordance with applicable Governmental Requirements. Except as provided in Section 9.2, Landlord shall not be required to make any improvement or repair of any kind for Tenant's benefit on the Premises or any other portion of Landlord's Plant Property. Subject to the Existing Environmental Liabilities, Tenant shall at all times keep the Premises and the Dock Improvements, if any, in compliance with all Legal Requirements and in accordance with all directions, rules and regulations of the health officer, fire marshal, building inspector or other proper officer of any governmental entity, at the sole cost and expense of Tenant.

### **9.2 Landlord's Obligation**

Landlord shall maintain and repair the underground waterlines used for the fire suppression system serving the Premises up to and including the hydrants, including periodic testing of such fire suppression system not less than one (1) time per year the Lease Term.

### **9.3 Self-Help**

If Tenant or Landlord fail to perform its obligations under this Section 9 after notice and a reasonable opportunity to cure (such period not to exceed twenty (20) days, unless (1) cure cannot reasonably be completed within twenty (20) days, and (2) cure is commenced within twenty (20) days and thereafter diligently and continuously pursued to completion), the other party may perform or cause such obligation to be performed. Any cost incurred shall be paid by the party required to perform such obligation and shall accrue interest at the rate of 9% per annum, from the date of expenditure until reimbursed. Notwithstanding the foregoing, if any condition on the Premises or Docking Facility poses an immediate risk of injury or harm, the parties may take such emergency action as may be reasonably necessary without providing an opportunity to cure to the other party, so long as the party taking such action promptly notifies the other party of the action taken.

## **10. INDEMNIFICATION AND INSURANCE**

### **10.1 Indemnification**

#### **10.1.1 Tenant's Indemnification of Landlord**

Except as limited in Section 10.1.3 and except as provided to the contrary in any agreement between the parties regarding or related to the Existing Environmental Liabilities, Tenant shall indemnify, defend and save Landlord, its directors, officers, agents, contractors and employees, harmless from all liabilities, claims, losses, demands and expenses (including reasonable fees of professionals) incurred or suffered by Landlord, its directors, officers, agents, contractors and employees, and relating to or resulting from the acts or omissions of Tenant, its officers, directors, agents, contractors and employees on or about the Premises or any other portions of Landlord's Plant Property.

#### **10.1.2 Landlord's Indemnification of Tenant**

Except as limited in Section 10.1.3 and except as provided to the contrary in any agreement between the parties regarding or related to the Existing Environmental Liabilities, Landlord shall indemnify, defend and save Tenant, its directors, officers, agents, contractors and employees, harmless from all liabilities, claims, losses, demands and expenses (including reasonable fees of professionals) incurred or suffered by Tenant, its directors, officers, agents, contractors and employees, and relating to or resulting from the acts or omissions of Landlord, its officers, directors, agents, contractors and employees on or about Landlord's Plant Property.

#### **10.1.3 Limitation; Mutual Responsibility**

No party shall be required to indemnify the other party or hold the other party harmless for any loss, damage, or claim due to the negligence or misconduct of such other party. In case of joint or concurrent negligence of the parties giving rise to a loss or claim against either or both of them, each party shall have full rights of contribution from the other.

#### **10.1.4 Notice of Claims; Defense and Settlement**

Any party entitled to indemnification under this Lease shall promptly notify the indemnifying party of the act, omission, or occurrence for which the indemnified party intends to seek indemnification. The party seeking indemnification will reasonably cooperate in providing information and testimony to assist in the defense of the matter, but all out-of-pocket costs of such cooperation shall be a part of the indemnified amounts for which the indemnifying party shall hold the party seeking

indemnification harmless. Control of the defense of the claims shall be the right and responsibility of the indemnifying party, which shall have authority to contest, compromise, or settle the matter in its reasonable discretion. If the indemnifying party fails to take reasonable and timely action to defend the party seeking indemnification, the party seeking indemnification may take reasonable action to defend itself, without limiting its right to seek indemnification and reimbursement from the indemnifying party.

## **10.2 Insurance**

### **10.2.1 Liability Insurance**

Tenant, at Tenant's expense, shall maintain, or cause to be maintained, a commercial general liability policy or policies (including fire and legal liability) with not less than a combined single limit of \$10,000,000. Each policy shall be for the protection of Tenant and Landlord, and their directors, officers, agents, and employees, insuring Tenant and Landlord and naming Landlord as an additional insured against liability for damages because of personal injury, bodily injury, death, or damage to property, including loss of use thereof, and occurring on or in any way related to the Premises or Docking Facilities, Tenant's operations or activities on the Premises or Docking Facilities or occasioned by reason of the operations of Tenant. By written notice to Tenant, Landlord may increase the minimum limit requirement set forth above based on customary and commercially reasonable standards for insurance coverage limits, when changing market and coverage conditions and practices reasonably justify such increase.

### **10.2.2 Tenant's Casualty Insurance**

Tenant, at Tenant's expense, shall keep the Premises, all improvements thereon, the Dock Improvements, and all of Tenant's trade fixtures, equipment, and other personal property owned by Tenant and located on or about the Premises or the Docking Facility, continuously insured against fire and other casualty with a reputable, solvent insurance underwriter(s). The policy(ies) shall be written on an all-risk form, in an amount equal to one hundred percent (100%) of the replacement value of the improvements, and in such amounts as may be elected by Tenant with respect to its personal property.

### **10.2.3 Docking Facility Insurance**

Landlord shall keep the Docking Facility continuously insured against fire and other casualty with a reputable, solvent insurance underwriter. The policy shall be written on an all-risk form, in an amount equal to one hundred percent (100%) of the replacement value of the Dock (exclusive of Tenant's Dock Improvements, which

shall be insured by Tenant as provided in Section 10.2.2). Landlord and Tenant shall each bear any additional, special or excess premium attributable to special hazards or risks on the portions of the Plant Property controlled by each party. If Landlord, in its sole discretion, believes that Tenant's use of the Docking Facility has created a special hazard or risk, Landlord shall have the right to deliver written notice to Tenant describing the risk or hazard and requiring Tenant to provide proof to Landlord within ten (10) days that Tenant has insurance covering the additional hazard or risk. Tenant's failure to provide such proof of insurance within the time provided shall constitute a default under this Lease.

#### **10.2.4 Workers' Compensation**

Tenant shall maintain in force workers' compensation insurance, including coverage for employer's liability, and longshoremen's and harborworkers' coverage with respect to any operations of Tenant involving the Docking Facilities, as appropriate or required by law.

#### **10.2.5 Certificates**

Each party shall, upon full execution of this Lease, furnish to the other party a certificate(s) of insurance evidencing the date, amount, and type of insurance required by this Lease. All policies of insurance will provide for not less than thirty (30) days' written notice to Landlord and Tenant before such policies may be revised, nonrenewed, or canceled. Upon request, each party shall provide to the other a copy or copies of any insurance policy required to be carried by such party under this Lease.

#### **10.3 Waiver of Liability and Subrogation**

Neither Landlord nor Tenant shall be liable to the other for losses arising out of damage to or destruction of all or any part of the Premises or the Docking Facilities or for damage to other parties' properties or injuries to other persons, when such losses are caused by any of the perils that are insured against, to the extent of available insurance proceeds. Claims for any and all losses, however caused, hereby are waived, to the extent of available insurance proceeds. However, nothing in this Section 10.3 shall be deemed to exculpate a party from liability for such losses if such party fails to obtain and keep in effect insurance against such losses as required under this Lease, nor shall this section be deemed to exculpate any party for liability for such losses if such exculpation would void or nullify any insurance coverage for such loss that might otherwise exist for the benefit of the other party. All insurance policies to be procured under this Lease shall contain an express waiver of any right of subrogation by the insurer.

## **11. ENVIRONMENTAL COMPLIANCE**

### **11.1 Definitions**

For purposes of this Section 11, (1) "Applicable Premises" means the Premises defined and described in Section 1 and all land or interests in land appurtenant to such Premises or used by Tenant under the terms of this Lease, including, without limitation, the Docking Facilities, the bed, shores and waters of the Willamette River adjacent to the Docking Facilities, parking areas and any easements, and (2) "Tenant's Operations" shall mean all operations of Tenant in the conduct of Tenant's business described in Section 3, and/or all operations by any subtenant of Tenant, on or about the Applicable Premises or conducted off the Applicable Premises and related to operations conducted on or about the Applicable Premises.

### **11.2 Compliance with Environmental Laws**

Tenant shall:

11.2.1 Cause all of Tenant's Operations on the Applicable Premises to comply with all Environmental Laws and orders of any governmental authorities having jurisdiction under any Environmental Laws;

11.2.2 Obtain, keep in effect and comply with all governmental permits and authorizations required by Environmental Laws with respect to the Applicable Premises or Tenant's Operations;

11.2.3 Furnish Landlord, upon request, with copies of all such permits and authorizations and any amendments or renewals thereof, and notify Landlord of any expiration or revocation of such permits or authorizations.

#### **11.2.4 Limitation on Uses of Hazardous Materials**

(a) Tenant shall not use, or allow any person to use, the Applicable Premises to generate, manufacture, refine, transport, treat, store, handle, recycle, release or dispose of any Hazardous Material, except for coal tar, products made from coal tar, petroleum pitch and materials reasonably necessary for Tenant's Operations.

(b) All Hazardous Material used, kept and stored on or about the Applicable Premises shall be handled, used, kept and stored in compliance with Environmental Laws and in a manner that minimizes the likelihood of any release.



### 11.3 Tenant's Obligation to Undertake Environmental Measures

Except for matters pertaining to Existing Environmental Liabilities, Tenant shall undertake any and all preventive, investigatory or remedial actions (including emergency response, removal, containment and other remedial actions) that are either (a) required by any applicable Environmental Laws or governmental authorities, or (b) necessary to prevent or minimize property damage (including damage to the Applicable Premises), personal injury or damage to the environment and natural resources, or the threat of any such damage or injury, in either case arising out of releases of or exposure to Hazardous Material in connection with the Tenant's Operations.

### 11.4 Notices

Except for matters pertaining to the Existing Environmental Liabilities, Tenant shall immediately notify Landlord in writing if Tenant becomes aware of any of the following:

(a) Any spill, release or disposal of any Hazardous Material, or imminent threat thereof, on, in, over, under or from the Applicable Premises or in connection with Tenant's Operations, unless a release or disposal is necessary and reasonable for Tenant's Operations, is permitted by governmental agency (or is authorized for release without permit) does not violate any Environmental Laws and poses no threat to human health or the environment;

(b) Any spill, release or disposal of any Hazardous Material, or imminent threat thereof, at any adjacent properties, which spill, release or disposal could migrate to, through, over or under the Applicable Premises;

(c) Any violation of Environmental Laws regarding the Applicable Premises or Tenant's Operations;

(d) Any administrative or judicial investigation or proceeding relating to Hazardous Material or Environmental Laws and to the Applicable Premises or Tenant's Operations;

(e) Any order, notice of violation, fine, penalty or other similar action relating to Hazardous Material or Environmental Laws and to the Applicable Premises or Tenant's Operations; and

(f) Any complaint or lawsuit filed or threatened to be filed by any person or other entity, including, without limitation, any governmental authority,

relating to Hazardous Material or Environmental Laws and to the Applicable Premises or Tenant's Operations.

#### **11.5 Access to Environmental Records**

At Landlord's request, Tenant will deliver to Landlord, at Tenant's expense, copies of any and all documents in its possession, or to which it has access, relating to Hazardous Material or Environmental Laws and (a) the physical conditions existing on or about the Applicable Premises, or (b) Tenant's Operations including, without limitation, (i) results of any laboratory analyses of samples, site assessments or studies, environmental audit reports, and/or other environmental studies or reports, and (ii) copies of all reports, manifests and identification numbers at the same time as they are required to be and/or are submitted to the appropriate governmental authorities. If requested by Tenant, Landlord will execute an agreement to maintain the confidentiality of any environmental record which Tenant delivers to Landlord, provided that Landlord shall have the right to notify appropriate governmental authorities of any violations of environmental laws disclosed by the environmental records if Landlord is required to make such notification by any applicable Environmental Law or if disclosure is required to avoid an immediate and substantial risk of harm to persons or property.

#### **11.6 Environmental Audits and Site Assessments**

If Landlord believes Tenant is not complying with all Environmental Laws or the requirements of this Lease, or that a material spill, release or disposal of a Hazardous Material has occurred on or about the Applicable Premises, then Landlord may require Tenant to furnish Landlord with an environmental audit or site assessment satisfactory to Landlord. The environmental audit or site assessment shall be performed at Tenant's expense by a qualified consultant approved by Landlord. If requested by Tenant, Landlord will execute an agreement to maintain the confidentiality of any environmental audit or site assessment conducted pursuant to this section, provided that Landlord shall have the right to notify appropriate governmental authorities of any violations of environmental laws disclosed by the environmental audit or site assessment if Landlord is required to make such notification by any applicable Environmental Law or if disclosure is required to avoid an immediate and substantial risk of harm to persons or property.

#### **11.7 Landlord's Rights**

##### **11.7.1 Inspections**

Landlord may conduct reasonable inspections and investigations of the Applicable Premises and Tenant's Operations at any time. Tenant shall cooperate fully

with Landlord during such inspections and investigations and Tenant shall have the right to observe any such inspections and investigations.

#### **11.7.2 Preventive, Investigatory and Remedial Actions**

If Tenant fails to perform any obligation under Section 11.3 (Tenant's Obligation to Undertake Environmental Measures), then Landlord may (but shall not be required to) perform such obligations at Tenant's expense. All costs and expenses incurred by Landlord under this Section shall be reimbursed by Tenant within thirty (30) days after demand with interest at the rate of eighteen percent (18%) per annum. In performing any of Tenant's obligations under this Section, Landlord shall be deemed to be Tenant's agent and shall not, by reason of such performance, be deemed to assume any responsibility or liability of Tenant or any subtenant under any Environmental Laws, to any governmental agency or to any other third party. Landlord is authorized to perform Tenant's obligations under Section 11.3 as Landlord deems necessary and appropriate.

#### **11.8 Indemnification**

Without limiting Tenant's obligations under Section 10.1.1, but subject to the allocations of liability for the Existing Environmental Liabilities, Tenant shall defend (with counsel approved by Landlord), fully indemnify and hold free and harmless Landlord from and against (i) all claims, judgments, damages, penalties, fines, costs, liabilities or losses (including, without limitation, diminution in value of the Applicable Premises, damages for the loss or restriction on the use of rentable or usable space or of any amenity of the Premises, damages arising from any adverse impact on marketing of space, sums paid in settlement of claims, attorneys' fees, consultant fees and expert fees) that arise during or after the Lease Term or that arose under the term of the Prior Lease, and (ii) are imposed on, or paid by or asserted against Landlord by reason or on account of, or in connection with, or arising out of (a) Tenant's use, generation, manufacture, refinement, transportation, treatment, storage, handling, recycling or disposal of Hazardous Material, or any release of Hazardous Material in connection with or as a result of Tenant's use or activities, or (b) the use or activities of Tenant's agents, contractors or subtenants relating to Hazardous Materials, or (c) any violation of any Environmental Law by Tenant or its agents, subcontractors or subtenants.

This indemnification of Landlord by Tenant includes, without limitation, costs incurred in connection with any of the following:

- (a) any investigative or remedial action involving the presence of or releases of Hazardous Material on or about the Applicable Premises;

(b) any allegations made as to the violation of any Environmental Laws involving the Applicable Premises or Tenant's Operations; and/or

(c) any injury or harm of any type to any person or entity or damage to any property (including natural resources) arising out of, in connection with or in any way relating to (i) the use, generation, manufacture, refinement, transportation, treatment, storage, handling, recycling, disposal, release or other handling of Hazardous Material on or about the Applicable Premises or during Tenant's Operations, or (ii) the violation of any Environmental Laws, or (iii) the contamination of the Applicable Premises during the period of this Lease.

#### **11.9 Pre-Termination Environmental Assessment**

Within sixty (60) days before expiration of the Lease Term, or upon receiving notice of termination, Landlord may retain the services of an independent professional engineer licenses to practice in the State of Oregon to conduct an environmental assessment to establish the environmental condition of the Applicable Premises. On completion of the assessment, Landlord shall provide Tenant with an environmental report that describes the results of such efforts. The parties agree that there shall be a rebuttable presumption that the assessment establishes the environmental condition of the Applicable Premises as of the date this Lease expires or terminates.

#### **11.10 Existing Environmental Liabilities; Disclaimer**

Nothing contained in this Section 11 releases, modifies or otherwise affect any party's duties or obligations under any other agreement regarding the Existing Environmental Liabilities. Landlord shall have access to the Applicable Premises at all times to perform any remediation and monitoring activities required of Landlord under any agreement with any party addressing the Existing Environmental Liabilities, or any order of or agreement with a governmental agency. LANDLORD MAKES NO REPRESENTATIONS OR WARRANTIES REGARDING THE CONDITION OF THE APPLICABLE PREMISES, COMPLIANCE WITH ANY ENVIRONMENTAL LAWS, OR THE EXISTENCE OF OR COMPLIANCE WITH ANY REQUIRED PERMITS OF ANY GOVERNMENTAL AGENCY. TENANT ACKNOWLEDGES THAT TENANT IS AND HAS BEEN OCCUPIED THE PREMISES UNDER THE PRIOR LEASE AND IS NOT RELYING ON ANY STATEMENT MADE BY LANDLORD OR LANDLORD'S AGENTS REGARDING THE CONDITION OF THE APPLICABLE PREMISES.

#### **11.12 Survival**

The provisions of this Section 11 shall survive the expiration or earlier termination of this Lease.

## **12. TRANSFER OR SUBLEASE**

### **12.1 General**

Except as set forth in Section 12.2, Tenant may not assign this Lease, or sublet the Premises, or any part thereof, without the prior written consent of Landlord.

### **12.2 Permitted Transfers**

The prohibitions of Section 12.1 shall not apply to any of the following ("Permitted Transfer"): (1) an assignment or sublease to an entity controlled by, controlling of, or under common control with Tenant; or (2) an assignment to a corporation with or into which Tenant has merged or consolidated. Landlord's consent will not be necessary to any such Permitted Transfer, but no transfer of this Lease shall be effective until Landlord receives written notice thereof and executed documents evidencing such transfer, including assumption by the transferee, if there is an assignment of the Lease. No Permitted Transfer shall release Tenant from any obligation under this Lease. A transferee under a Permitted Transfer shall be subject to all provisions of this Lease, including the limitations on transfer and assignment set forth in this Section 12.

## **13. DAMAGE OR DESTRUCTION OF IMPROVEMENTS**

If any improvements on the Premises or any of the Dock Improvements are damaged or destroyed by fire or other casualty, then Tenant may either repair and restore the Premises or remove the damaged improvement(s) and clear Landlord's Plant Property of all related debris (including any Hazardous Material released as a result of such fire or casualty). Such election shall be made by Tenant and the restoration work or removal work, as the case may be, commenced within fourteen (14) days following the casualty event, except for damage to the Dock Improvements, which election and commencement of work shall be made and undertaken by Tenant within twenty-one (21) days after the casualty event. All work shall be prosecuted diligently and continuously to completion. If Tenant fails to commence repair or removal activities within the applicable time period, then all proceeds from insurance carried by Tenant covering the improvements and Dock Improvements shall be paid to Landlord for application to such repair and/or removal. All proceeds relating to Tenant's trade fixtures, equipment and other personal property shall be paid to and belong to Tenant.

## **14. LIENS**

Tenant shall keep the Premises and all other portions of Landlord's Plant Property free from all liens of every kind and description caused, incurred, permitted

or suffered by any act or omission of Tenant, including, without limitation, any mechanic's, laborer's, suppliers' construction or any other liens; provided, Tenant shall not be in default under this Section if Tenant removes or adequately bonds (by posting a bond in accordance with applicable law) any such unpermitted lien within thirty (30) days of receipt of actual notice of the existence of any such lien.

## **15. EMINENT DOMAIN**

### **15.1 Definitions**

The term "takes by (or taken or taking by) eminent domain" includes the exercise of any power of condemnation, whether by public authority or private corporation and any purchase or other acquisition in lieu of condemnation. The expression "date of taking" means the date the order adjudicating public use becomes final or the date the authority exercising its right of "eminent domain" agrees in writing to the purchase price in lieu of condemnation, or, if earlier, takes title to the Premises.

### **15.2 Material Taking**

If a condemning authority takes by eminent domain all of the Premises or a portion of the Premises that is, the reasonable judgment of Tenant, sufficient to prevent Tenant from using the remaining Premises to conduct its operations in a manner substantially equivalent to its operations as conducted immediately prior to the taking, then this Lease shall terminate as of the date of taking and all rental shall be paid up to that date. All condemnation proceeds shall belong to Landlord, except that Tenant shall be entitled to seek a separate award for any cost or loss incurred or expected to be incurred by Tenant in removing Tenant's trade fixtures, equipment and other personalty, and Tenant's relocation expenses. If, at any time after Tenant has constructed Dock Improvements and is using the Docking Facilities, a condemning authority takes all of the Docking Facilities or a portion of the Docking Facilities that is, in the reasonable judgment of Tenant, sufficient to prevent Tenant from using the Premises to conduct its operations in a manner substantially equivalent to its operations as conducted immediately prior to the taking, then such taking shall be subject to and covered by the provisions of this Section 15.2.

### **15.3 Partial Taking**

If the portion of the Premises or Docking Facilities taken by eminent domain does not prevent Tenant from conducting its operations in a manner substantially equivalent to its operations as conducted immediately prior to the taking, then Tenant shall promptly restore the Premises to a condition comparable to their condition on the date of taking, less the portion lost in the taking, and this Lease shall continue in

effect. Tenant's obligation to restore shall be limited to the amount of condemnation proceeds made available to Tenant by Landlord. Landlord shall promptly restore the Docking Facilities to a condition comparable to its condition on the date of the taking, less the portion lost in the taking. Landlord's obligation to restore shall be limited to application of available condemnation proceeds.

## **16. DEFAULT BY TENANT**

### **16.1 Default in Payment of Rent**

Tenant's failure to pay any item of rent for a period of five (5) days after the receipt by Tenant of Landlord's notice of Tenant's failure to make such payment shall be a "Default" under this Lease. With respect to Tenant's obligation to pay basic monthly rental under Section 4.1, Landlord shall be required to provide only one (1) written notice of default in any calendar year. Landlord shall not be required to give additional notice of any subsequent payment default with respect to basic monthly rental as a prerequisite to the exercise of remedies and such subsequent default shall be an immediate "Default" under this Lease.

### **16.2 Other Defaults**

Except with respect to the failure to pay rent as set forth in Section 16.1, Tenant shall not be considered in "Default" by reason of any act or omission in breach of any requirement hereof, until and unless Landlord gives Tenant notice of such act or omission, and Tenant fails to cure the same within twenty (20) days after the receipt by Tenant of such notice. As to any breach that cannot reasonably be cured within twenty (20) days, Tenant shall not be in "Default" if Tenant commences to cure such act or omission within such 20-day period, and thereafter diligently and continuously prosecutes such cure to completion. Tenant's failure to cure such breach within the applicable cure period shall be a "Default" under this Lease. Notwithstanding the foregoing, Tenant shall provide to Landlord a written plan and schedule for the repair of any improvement, alteration or addition on the Premises, any Dock Improvements or any personal property of Tenant, the condition of which poses an immediate risk of harm to persons or property, within five (5) days after such condition occurs. In addition to Landlord's rights under Section 9.3, Tenant's failure to provide such information to Landlord within such five (5) day period shall constitute a "Default" under this Lease.

### **16.3 Automatic Defaults**

Tenant shall be in "Default" under this Lease if (1) Tenant vacates or abandons the Premises for a period in excess of thirty (30) consecutive days, or (2) Tenant becomes bankrupt or insolvent or files any debtor proceedings or has taken against it

in any court pursuant to state or federal statute, a petition in bankruptcy or insolvency, reorganization or appointment of a receiver or trustee; or Tenant petitions for or enters into any such arrangement; or suffers this Lease to be taken under a writ of execution.

## **17. REMEDIES**

### **17.1 Remedies for Default by Tenant**

If Tenant is in Default, Landlord may at any time thereafter pursue any and all of the following remedies, which shall be cumulative and non-exclusive to the maximum extent possible:

17.1.1 Declare this Lease terminated by giving written notice of the termination to Tenant.

17.1.2 Terminate Tenant's right to possession of the Premises by any lawful means, in which case Tenant shall immediately and peaceably surrender possession of the Premises to Landlord, and Landlord may recover from Tenant all damages incurred by Landlord by reason of Tenant's Default including, but not limited to, the cost of recovering possession of the Premises; expenses of reletting, including necessary renovation and alteration of the Premises; and reasonable attorney's fees.

17.1.3 Pursue any remedy provided in this Lease for breach of the provision specified in the remedy.

17.1.4 Pursue any other remedy now or hereafter available to Landlord under Oregon laws or judicial decisions.

### **17.2 Performance by Landlord of Tenant's Obligations**

All covenants and agreements to be performed by Tenant under any of the terms of this Lease shall be performed by Tenant at Tenant's sole cost and expense. If Tenant fails to pay any sum owed to any party, other than Landlord, for which Tenant is liable hereunder, or if Tenant fails to perform any other act to be performed by Tenant hereunder or otherwise violate any term or provision of this Lease, then, after giving Tenant any required notice and opportunity to cure, Landlord may cure Tenant's default. Landlord shall not be obligated to cure any Tenant default, and any such cure will not waive any default or release Tenant from any obligation hereunder. All sums paid by Landlord and all necessary incidental costs, together with interest thereon from the date of such payment by Landlord at the rate of 18% per annum, shall be payable to Landlord on demand. Tenant covenants to pay any such sums.



## **18. QUIET ENJOYMENT; SUBORDINATION**

### **18.1 Quiet Enjoyment**

Landlord covenants that Tenant shall quietly and peaceably have, hold and enjoy the Premises in accordance with this Lease throughout the Lease Term, free and clear of any claim by, through or under Landlord, or having rights paramount to Landlord, subject to the rights of the holder of the Existing Mortgage and subject to easements and restrictions currently of record.

### **18.2 Subordination**

This Lease is subject and subordinate to the Existing Mortgage. At Landlord's option, this Lease shall also be subordinate to any ground lease, mortgage, deed of trust, or any other hypothecation or security hereafter placed on Landlord's Plant Property, to any and all advances made on the security thereof, and to all renewals, modifications, consolidations, replacements and extensions thereof. Notwithstanding such future subordination, Tenant's right to quiet possession of the Premises shall not be disturbed if Tenant is not in default and if Tenant pays the rent and observes and performs all of the provisions of this Lease, unless this Lease is otherwise terminated pursuant to its terms if any mortgagee, trustee or ground Landlord shall elect to have this Lease prior to the lien of its mortgage, deed of trust or ground lease, and shall give written notice thereof to Tenant, this Lease shall be deemed prior to such mortgage, deed of trust, or ground lease, whether this Lease is dated prior or subsequent to the date of said mortgage, deed of trust or ground lease or the date of recording thereof. Tenant shall execute any documents required to effectuate an attornment, a subordination or to make this Lease prior to the lien of any mortgage, deed of trust or ground lease. If Tenant fails to execute such documents within ten (10) days after written demand, then Landlord shall either (a) declare such failure constitutes a Default by Tenant hereunder, or, (b) Landlord shall execute such documents on behalf of Tenant as Tenant's attorney-in-fact. Tenant hereby makes, constitutes and irrevocably appoints Landlord as Tenant's attorney-in-fact to execute such documents in accordance with this section.

## **19. SURRENDER OF PREMISES**

Upon the expiration or earlier termination of the Lease Term, Tenant shall surrender the Premises in the same condition Tenant is required to maintain the Premises hereunder, with all improvements and items removed pursuant to Section 5.3.3, and any damage to the Premises or any other portions of Landlord's Plant Property caused by such removal restored by Tenant.

## **20. NO BROKERS**

Landlord and Tenant each represent and warrant to the other that they have not engaged or had discussions with any broker or agent who would be entitled to any commission or fees in connection with the negotiation or execution of this Lease. Each party agrees to indemnify and hold the other harmless from all costs, expenses or liability for such commissions or other compensation or charges claimed by or awarded to any broker or agent on the basis of any assignments or agreements made or alleged to have been made by or on behalf of the indemnifying party.

## **21. RENT, VALUATION AND ACCOUNTING DISPUTES**

### **21.1 General**

As to any dispute concerning valuation, costs, proration of expenses or determination of rent, Landlord and Tenant shall seek in good faith to resolve their dispute. If the parties cannot resolve their dispute within thirty (30) days after the date that a party delivers to the other party a notice of the existence of the dispute (for example, by objecting in writing to a rent calculation), the matter shall be submitted to independent certified public accountants (or, as to fair market valuation of real property, a certified real estate appraiser). The parties shall jointly select a certified public accounting firm (or certified appraiser) that is not then employed by either party and that is familiar with the Tenant's type of business (or, as to fair market valuation of real property, familiar with the local market for the type of property involved). The determination of such accounting firm or appraiser shall bind on the parties as to the matter submitted for such determination. The fees of the accounting firm or appraiser shall be borne equally.

### **21.2 Arbitration**

Any dispute or controversy relating to valuation, costs or determination of rent that is not settled under the previous subsection within ninety (90) days after a party delivers a written notice of dispute, shall, unless otherwise agreed, be settled by arbitration in accordance with the Commercial Arbitration Rules (or, as to fair market valuation of real property, the Real Estate Valuation Rules) of the American Arbitration Association. Judgment upon the award rendered by the arbitrator(s) may be entered in any court having jurisdiction. The cost of arbitration shall be allocated between the parties by the arbitrator(s) on the basis of the extent to which the position of one or the other party is adopted in the decision of the arbitrator(s). Any such arbitration proceeding shall be held in Portland, Oregon.

## 22. MISCELLANEOUS

### 22.1 Authority

Each party represents and warrants to the other that it has full power and authority to enter into and to perform its obligations under this Lease, and that the person executing this Lease on its behalf is authorized to do so.

### 22.2 No Partnership

The relationship created by this Lease is that of landlord and tenant only. The parties are not, shall not be considered to be, and shall not hold themselves out to be, partners or joint venturers.

### 22.3 Consent

Wherever in this Lease Landlord has the right to give or withhold its consent to a matter requested by Tenant, such consent may be withheld by Landlord in its sole and absolute discretion except as set forth to the contrary in any specific provision of this Lease.

### 22.4 Notices

All notices to be given under this Lease shall be in writing. Notices may be served by certified or registered mail or by facsimile to the party at the address shown below, unless the address has been changed by written notice. Mailed notices shall be deemed delivered five (5) days after mailing, properly addressed.

LANDLORD:        NW NATURAL  
                     220 NW Second Avenue  
                     Portland, Oregon 97209  
                     Attn: Manager: Risk, Environmental and Land  
                     Facsimile No.: (503) 721-2516

TENANT:           KOPPERS INDUSTRIES, INC.  
                     7540 NW St. Helens Road  
                     Portland, Oregon 97210  
                     Attn: Amos Kameron, Plant Manager  
                     Facsimile No.: (503) 285-2831

With a copy to: Koppers Industries, Inc.  
436 Seventh Avenue  
Pittsburgh, PA 15219-1800  
Attn: VP and Corporate Secretary  
Facsimile No.: (412) 227-2333

## **22.5 Headings; Exhibits**

The section headings in this Lease are included for convenience only; they do not give full notice of the terms of any portion of this Lease and are not relevant to the interpretation of any provision of this Lease. All exhibits referenced in this Lease are attached hereto and incorporated herein by this reference.

## **22.6 Governing Law**

This Lease shall be governed by and construed in accordance with Oregon law.

## **22.7 Severability**

To the fullest extent permitted by law, any provision of this Lease deemed invalid or unenforceable shall be ineffective to the extent of such invalidity or unenforceability, without rendering invalid or unenforceable the remaining provisions of this Lease.

## **22.8 Integration; Amendment**

This Lease is the entire agreement of the parties relating to the subject matter hereof, and supersedes all prior communications, representations, or agreements, verbal or written, among the parties relating to the subject matter hereof. This Lease may not be amended except in writing executed by the parties.

## **22.9 Waiver**

No provision of this Lease shall be deemed to have been waived unless such waiver is in writing signed by the waiving party. No failure by any party to insist upon the strict performance of any provision of this Lease, or to exercise any right or remedy consequent upon a breach thereof, shall constitute a waiver of any such breach, of such provision or of any other provision. No waiver of any provision of this Lease shall be deemed a waiver of any other provision of this Lease or a waiver of such provision with respect to any subsequent breach, unless expressly provided in writing.

## **22.10 Attorneys' Fees**

### **22.10.1 No Suit or Action Filed**

If, after good-faith attempts to settle the matter have failed, this Lease is placed in the hands of an attorney due to a default in the payment or performance of any of its terms, the defaulting party shall pay, immediately upon demand, the other party's attorney fees, collection costs, and any other fees or expenses incurred by the nondefaulting party, even though no suit or action is filed thereon..

### **22.10.2 Arbitration or Mediation; Trial and Appeal**

If any arbitration, mediation, or other proceeding is brought in lieu of litigation, or if legal action is instituted to enforce or interpret any of the terms of this Lease, or if legal action is instituted in a Bankruptcy Court for a United States District Court to enforce or interpret any of the terms of this Lease, to seek relief from an automatic stay, to obtain adequate protection, or to otherwise assert the interest of Landlord in a bankruptcy proceeding, the party not prevailing shall pay the prevailing party's costs and disbursements, the fees and expenses of expert witnesses in determining reasonable attorney fees pursuant to ORCP 68, and such sums as the court may determine to be reasonable for the prevailing party's attorney fees connected with the trial and any appeal and by petition for review thereof.

## **22.11 Successors; No Third-Party Beneficiary Rights**

This Lease shall be binding on and inure to the benefit of the parties and their successors and assigns, subject to the provisions of Section 12 above. No person not a party to this Lease is an intended beneficiary of this Lease, and no person not a party to this Lease shall have any right to enforce any term of this Lease; provided, the third parties referenced in Section 10.1 as indemnified parties shall have the indemnification rights described therein.

## **22.12 Further Assurances**

Each party agrees, at the request of the other party, at any time after the date hereof, to promptly execute and deliver all further documents, and to promptly take and forbear from all such action, as may be reasonably necessary or appropriate to more effectively to confirm or carry out the provisions of this Lease.

## **22.13 Survival**

Each provision of this Lease which may require the payment of money by, to or on behalf of Landlord or Tenant or third parties after the expiration of the Lease

 <b>NW Natural</b>	220 NW 2ND AVENUE PORTLAND, OR 97209
	TEL 503.226.4211
	www.nwnatural.com

October 8, 2003

Amos Kameron  
Plant Manager  
Koppers Industries  
7540 NW St. Helens Rd.  
Portland, OR 97210-3663

RE: Plant Lease Rental Increase

Dear Amos:

According to the terms of our October 1, 1998 lease, effective October 1, 2003 rent will increase by \$1,456.30 from \$9,900.00 per month to \$11,356.30 per month.

The total monthly increase represents a 13.7 % CPI increase of \$1,356.30 based on calculations defined in Section 4.2, and a \$100.00 increase based on the provision in Section 5 allowing for an increase in rent due to the dock improvements and additional use of Landlord's plant property.

Attached is a copy of the Bureau of Labor Statistics chart on which the CPI calculation was made. Please contact me if you have any questions regarding these figures.

Best Regards



Ronald L. Hordichok, Supervisor  
Risk & Land Management

RLH/clb

Attachment:

Clb-amoskameron-10/8/2003



# U.S. Department of Labor

## Bureau of Labor Statistics

Bureau of Labor Statistics Data

[www.bls.gov](http://www.bls.gov)[Search](#) | [A-Z Index](#)
[BLS Home](#) | [Programs & Surveys](#) | [Get Detailed Statistics](#) | [Glossary](#) | [What's New](#) | [Find It! In DOL](#)

 Change Output  
Options:

 From: 1993 To: 2003 
☐ include graphs NEW!

[More Formatting Options](#) →

Data extracted on: October 8, 2003 (11:49:10 AM)

### Consumer Price Index - All Urban Consumers

Series Id: CUUR0000SA0, CUUS0000SA0  
 Not Seasonally Adjusted  
 Area: U.S. city average  
 Item: All items  
 Base Period: 1982-84=100

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual	HA
1993	142.6	143.1	143.6	144.0	144.2	144.4	144.4	144.8	145.1	145.7	145.8	145.8	144.5	144.5
1994	146.2	146.7	147.2	147.4	147.5	148.0	148.4	149.0	149.4	149.5	149.7	149.7	148.2	148.2
1995	150.3	150.9	151.4	151.9	152.2	152.5	152.5	152.9	153.2	153.7	153.6	153.5	152.4	152.4
1996	154.4	154.9	155.7	156.3	156.6	156.7	157.0	157.3	157.8	158.3	158.6	158.6	156.9	156.9
1997	159.1	159.6	160.0	160.2	160.1	160.3	160.5	160.8	161.2	161.6	161.5	161.3	160.5	160.5
1998	161.6	161.9	162.2	162.5	162.8	163.0	163.2	163.4	163.6	164.0	164.0	163.9	163.0	163.0
1999	164.3	164.5	165.0	166.2	166.2	166.2	166.7	167.1	167.9	168.2	168.3	168.3	166.6	166.6
2000	168.8	169.8	171.2	171.3	171.5	172.4	172.8	172.8	173.7	174.0	174.1	174.0	172.2	172.2
2001	175.1	175.8	176.2	176.9	177.7	178.0	177.5	177.5	178.3	177.7	177.4	176.7	177.1	177.1
2002	177.1	177.8	178.8	179.8	179.8	179.9	180.1	180.7	181.0	181.3	181.3	180.9	179.9	179.9
2003	181.7	183.1	184.2	183.8	183.5	183.7	183.9	184.6						184.6

[Frequently Asked Questions](#) | [Freedom of Information Act](#) | [Customer Survey](#)  
[Privacy & Security Statement](#) | [Linking to Our Site](#) | [Accessibility Information](#)

U.S. Bureau of Labor Statistics  
 Postal Square Building  
 2 Massachusetts Ave., NE  
 Washington, DC 20212-0001

Phone: (202) 691-5200  
 Fax-on-demand: (202) 691-6325  
 Data questions: [blsdata\\_staff@bls.gov](mailto:blsdata_staff@bls.gov)  
 Technical (web) questions: [webmaster@bls.gov](mailto:webmaster@bls.gov)  
 Other comments: [feedback@bls.gov](mailto:feedback@bls.gov)



October 8, 2003

Amos Kameron  
Plant Manager  
Koppers Industries  
7540 NW St. Helens Rd.  
Portland, OR 97210-3663

RE: Plant Lease Rental Increase

Dear Amos:

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The total monthly increase represents a 13.7 % CPI increase of \$1,356.30 based on calculations defined in Section 4.2, and a \$100.00 increase based on the provision in Section 5 allowing for an increase in rent due to the dock improvements and additional use of Landlord's plant property.

Attached is a copy of the Bureau of Labor Statistics chart on which the CPI calculation was made. Please contact me if you have any questions regarding these figures.

Best Regards

Ronald L. Hordichok, Supervisor  
Risk & Land Management

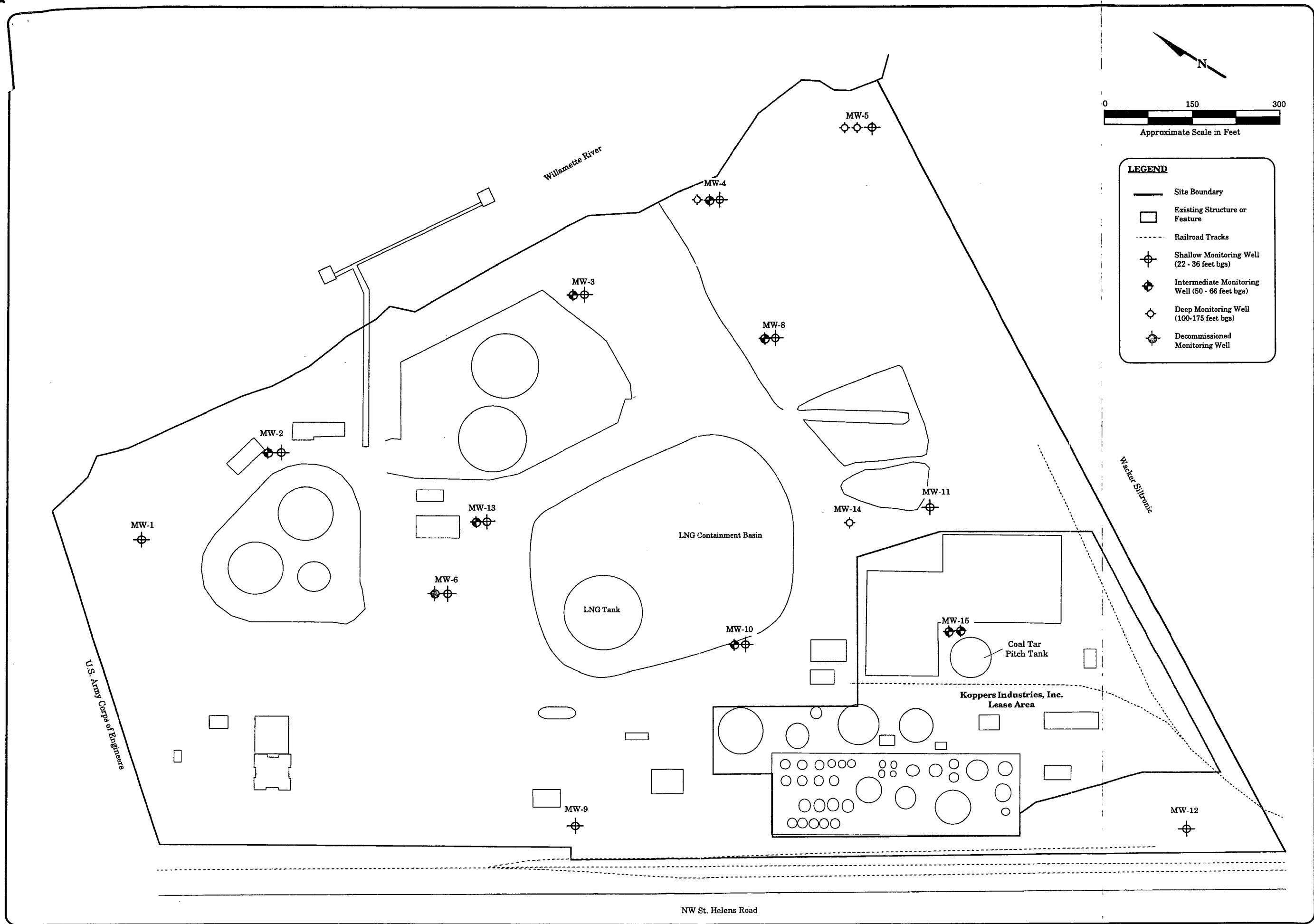
RLH/clb

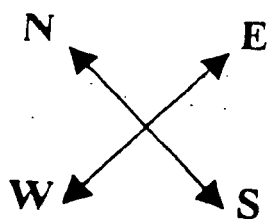
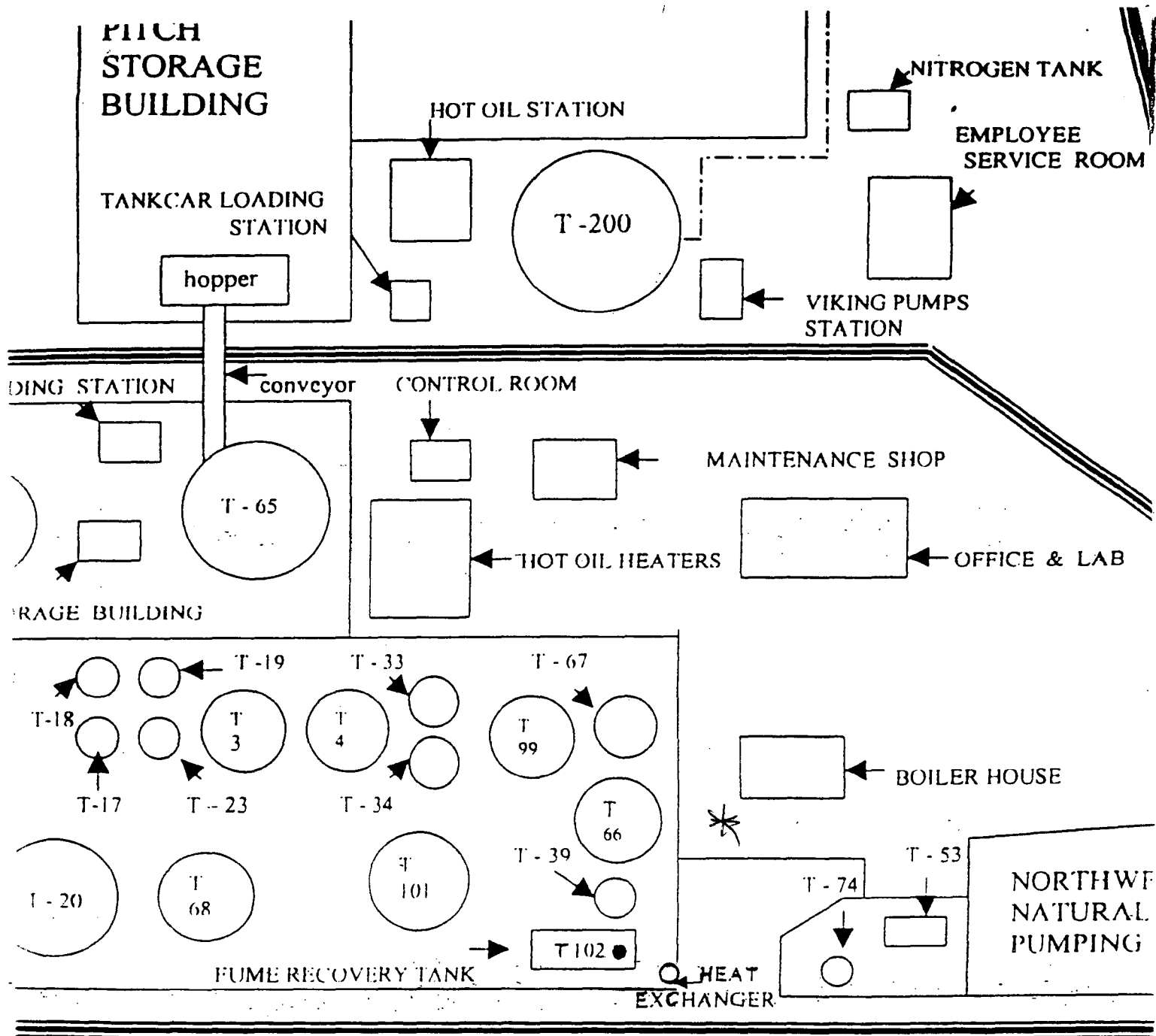
Attachment:

Clb-amoskameron-10/8/2003

Koppers001123







# VISIBLE EMISSION OBSERVATION FORM

No.

COMPANY NAME <b>Koppers Inc.</b>		
STREET ADDRESS <b>7540 N.W. St. Helens Rd.</b>		
CITY <b>Portland</b>	STATE <b>OR</b>	ZIP <b>97210</b>
PHONE (KEY CONTACT) <b>503-286-3681</b>	SOURCE ID NUMBER <b>26-2930</b>	

PROCESS EQUIPMENT <b>Fume Recovery System</b>	OPERATING MODE <b>Operating hours</b>
CONTROL EQUIPMENT	OPERATING MODE

DESCRIBE EMISSION POINT  
**22inch diameter stack**

on top of recovery tank.

HEIGHT ABOVE GROUND LEVEL  
**25 ft.**

HEIGHT RELATIVE TO OBSERVER  
Start **25 ft.** End **Same**

DISTANCE FROM OBSERVER  
Start **60'** End **Same**

DIRECTION FROM OBSERVER  
Start **West** End **Same**

DESCRIBE EMISSIONS  
Start **lotting** End **Same**

EMISSION COLOR  
Start **WHT** End **Same**

POINT IN THE PLUME AT WHICH OPACITY WAS DETERMINED  
Start **Top of Stack** End **Same**

DESCRIBE PLUME BACKGROUND  
Start **Trees/Hillside** End **Same**

BACKGROUND COLOR  
Start **Bru** End **Same**

WIND SPEED  
Start **5-7 mph** End **Same**

WIND DIRECTION  
Start **North** End **Same**

AMBIENT TEMP  
Start **38°F** End **Same**

SOURCE LAYOUT SKETCH

Stack with Plume

Sun

Wind

Draw North Arrow

Emission Point

Observer's Position

140°

Correction Line

ADDITIONAL INFORMATION

OBSERVATION DATE <b>1-17-05</b>		START TIME <b>0800</b>		END TIME <b>0807</b>	
SEC	0	15	30	45	COMMENTS
MIN					
1	5	10	10	10	
2	10	10	10	10	
3	15	5	5	10	
4	5	10	10	5	
5	10	15	5	10	
6	5	5	10	10	
7	10	15	15	10	
8					
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25					
26					
27					
28					
29					
30					

OBSERVER'S NAME (PRINT)  
**T.J. Turner Cert.-1517**

OBSERVER'S SIGNATURE  
*[Signature]*

DATE  
**1-17-05**

ORGANIZATION  
**Koppers Inc.**

CERTIFIED BY  
**Yakima Clean Air Authority**

DATE  
**1-17-05**

CONTINUED ON VED FORM NUMBER

NORTHWEST



NATURAL GAS COMPANY

220 N.W. SECOND AVENUE

PORTLAND, OREGON 97209 - 3991

(503) 226-4211

September, 5.1991

John Oxford  
Koppers Company, Inc.  
7540 NW St. Helens Rd  
Portland, Or 97210

Dear John,

Per your request I have attempted to look up drawings or data on tanks T-65 and T-68. As I told you on the telephone we have located information on the size and capacity of the tanks and will continue to look for any drawings.

Instead of making you wait any longer I thought you might like to have the size and capacity information.

TANK	SIZE	CAPACITY (Gallons)
T-65	60'-4 X 41'-2	880,430
T-68	37'-10 X 29'-6	248,320

Also, as I mentioned to you we believe the tanks are on ring wall foundations.

We will continue to look for the drawings. Please let me know if you need any further information.

Sincerely,

*Sandi*  
S. K. Hart

cc: D.W. Mills  
R.K. Opitz

Koppers001127

**INTEROFFICE CORRESPONDENCE**

To: L. F. Flaherty

From: A. S. Kameron

Location: K-1750

Location: Portland

Subject: Northwest Natural Gas

Date: March 18, 1992

The attached letter is self-explanatory.

As for a new building, I'm sure we can provide documentation per their request. Thus, when we decide to proceed with this project, we should not have any problems.

As for the unloading facility, the door appears to be slightly open. How do you and Walt want us to proceed in this regard?



A. S. Kameron

ASK/km

cc: J. A. Oxford ✓  
W. W. Turner

NORTHWEST



NATURAL GAS COMPANY

220 N.W. SECOND AVENUE

PORTLAND, OREGON 97209 - 3991

(503) 226-4211

March 5, 1992

Mr. Amos Kameron  
Pacific Procurement Manager  
Koppers Industries, Inc.  
7540 N. W. St. Helens Road  
Portland, OR 97210-3663

Dear Amos:

In response to your letter of February 26, 1992, I find no objections to the construction of the proposed building we discussed while visiting your facility, provided that you assure access to the test pipes for the leach field and that you forward some documentation that demonstrates an acceptance on the part of the DEQ.

With regard to the other mentioned project, we feel that many more questions must be answered in order to approve such an expansion. We would ask that a study be completed that addresses environment, land use, obtainment of permits and an approval from the Army Corp of Engineers for the construction of an unloading facility on top of existing pilings.

As you know, Northwest Natural is committed to work with you in every way possible, provided that all questions concerning environment and property utilization can be addressed.

Please contact us should you have any questions concerning our response, and we look forward to working with you in the future.

Sincerely,

Ronald K. Opitz, Manager  
Risk & Land Management

RKO:dg

cc: B. B. Samson  
S. K. Hart

Koppers001129

# GENERAL NOTES:

- UNLESS NOTED OTHERWISE (U.N.D.)  
DESIGN, FABRICATE, ERECT AND TEST  
PER API 650  
DMT= +20°F TO 100°F
- WELD SIZES TO EQUAL THICKNESS OF THE  
THINNER MEMBER BEING JOINED U.N.D.
- MATERIALS:  
PLATE A36  
SHELL PLATE A573 GR 70, A36 MOD. & A36  
ROOF PLATE A36  
BOTTOM PLATE A36  
STRUCTURAL A36  
PIPE A53B  
FITTINGS A105  
BOLTS A307 PLATED  
GASKETS FLEXATATIC STYLE CG.
- PAIN: PER CUSTOMER SPEC. AS  
APPROVED UNDER SEPARATE SUBMITTAL.
- HYDRO TEST PER API 650
- ALL BOLT HOLES IN FLANGES  
SHALL STRADDLE VERTICAL AND  
HORIZONTAL CENTERLINES U.N.D.
- ALL SHELL NOZZLES & ATTACHMENT ELEVATIONS  
ARE MEASURED FROM INSIDE TOP OF TANK  
FLOOR, @ LOWEST POINT OF SLOPING FLOOR.

REVIEWED BY  
R.J. ROBERTS, INC.

- ☒ No Exception Taken.
- ☐ Exceptions As Noted.
- ☐ Revise As Noted and Resubmit.

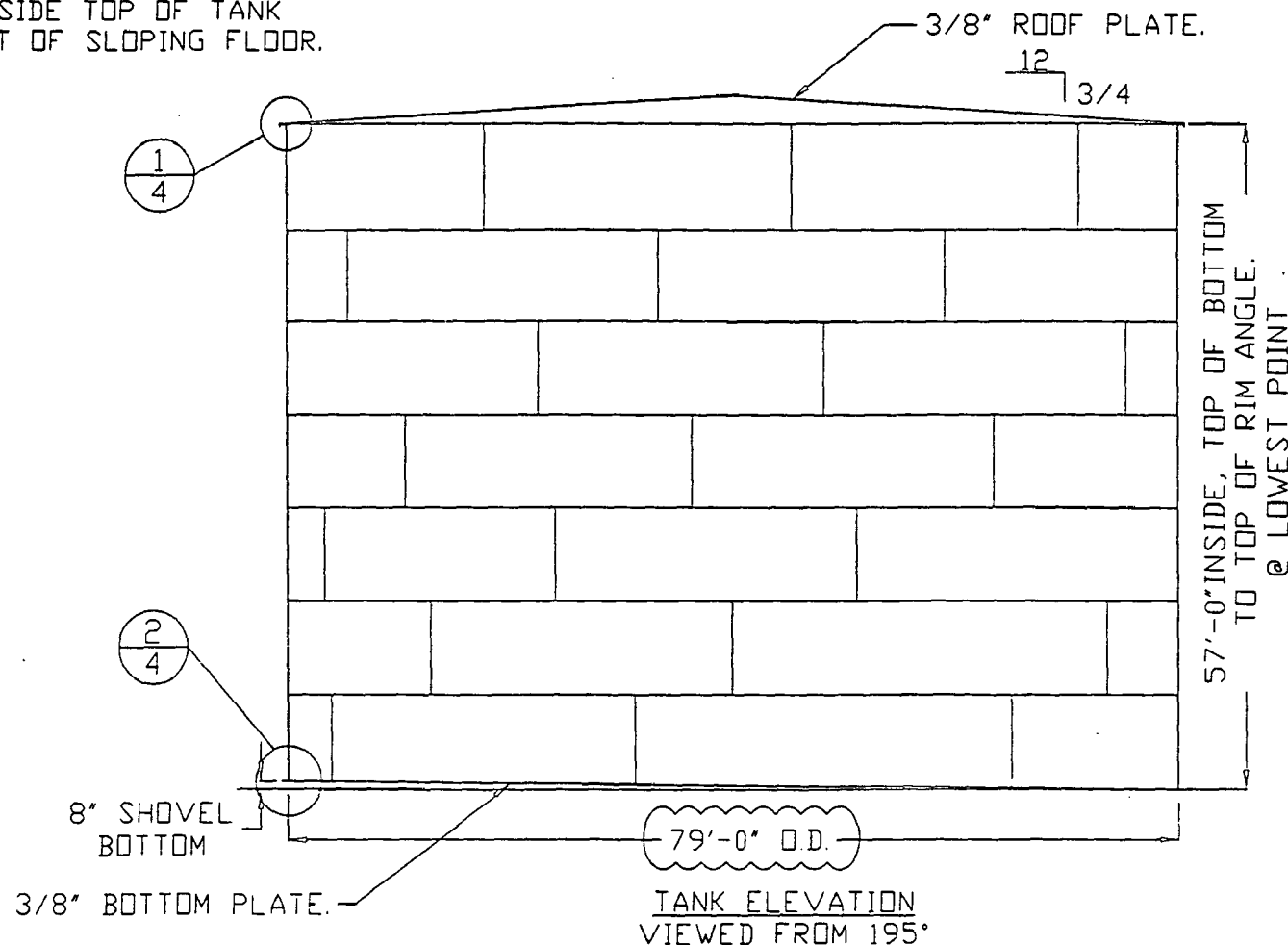
An action shown above is subject to the terms of the contract/  
purchase order and does not relieve contractor/seller from any of  
his obligations under the contract/purchase order, including design  
and detailing.

By                      Date 3/17/99

Iss. No. N-267

## DRAWING LIST

PAGE#	PAGE CONTENTS	PAGE#	PAGE CONTENTS
1	NOTES & ELEVATION	26	16"Ø OVERFLOW
2	PLAN & APPURTENANCE	27	6"Ø OUTLET
3	SHELL ROLLOUT	28	4"Ø CIRCULATION PIPE
4	CHINE & RIM DETAILS	29	4"Ø CIRCULATION PIPE
5	ANCHOR CHAIRS	30	4"Ø CIRCULATION PIPE
6	BOTTOM LAYOUT	31	4"Ø CIRCULATION PIPE
7	BOTTOM SKETCHES	32	4"Ø SPARE
8	BOTTOM SKETCHES	33	3"Ø HEATERS
9	ROOF LAYOUT	34	1 1/2"Ø TRACERS
10	ROOF SKETCHES	35	1 1/2"Ø TRACERS
11	ROOF SKETCHES	36	1"Ø THERMOMETER
12	ROOF STRUCTURAL	37	12"Ø LEVEL
13	STRUCTURAL DETAILS	38	8"Ø GAGE HATCH
14	UPPER SPIRAL STAIRS	39	8"Ø INLET
15	UPPER STAIR DETAILS	40	4"Ø SPARE
16	LOWER SPIRAL STAIRS	41	2"Ø NITROGEN
17	LOWER STAIR DETAILS	42	2"Ø HIGH LEVEL
18	LANDING PLATFORM	43	1"Ø PT
19	PLATFORM DETAILS	44	24"Ø ROOF MANHOLE
20	STAIR LANDINGS	45	8"Ø VENT
21	48" X 36" FLUSH MANWAY	46	INSULATION RINGS
22	MANWAY DETAILS	47	PIPE SUPPORT
23	MANWAY DETAILS	48	PIPE SUPPORT
24	36"Ø AGITATOR	49	ANCHOR SUPPORT
25	36"Ø AGITATOR	50	GUIDE SUPPORT



TANK ELEVATION  
VIEWED FROM 195°

## MORSE CONSTRUCTION GROUP, INC.

5500 SOUTH FIRST AVE. EVERETT, WA. 98203 (206) 258-2731  
FAX (206) 259-6355

SCALE: N.T.S. APPROVED BY: NC DRAWN BY: WDB

DATE: 01-04-99 UNLESS OTHERWISE SPECIFIED  
DIMENSIONS ARE IN INCHES PS-FAC: 200

KOPPERS IND., PORTLAND, OR.

79'-0"Ø X 57'-0" API

ELEVATION & NOTES

SH.# 2380-PD-6158

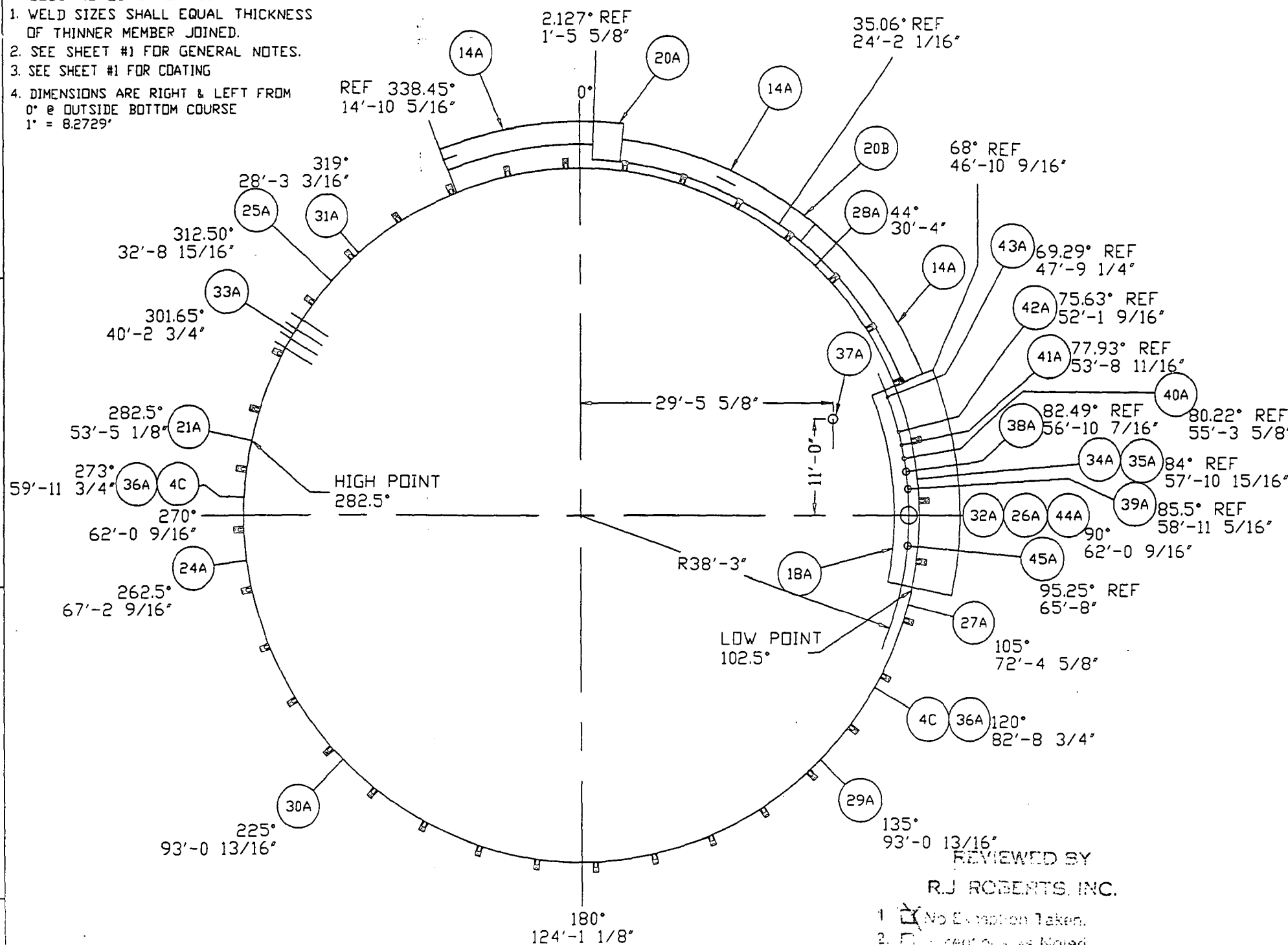
1 OF 50 DWG #: 23800101

REV	ZN	DESCRIPTION	U	DATE	BY	CHK
REVISIONS						

Koppers001130

VDB5178 092447

- NOTES:  
UNLESS NOTED OTHERWISE  
1. WELD SIZES SHALL EQUAL THICKNESS  
OF THINNER MEMBER JOINED.  
2. SEE SHEET #1 FOR GENERAL NOTES.  
3. SEE SHEET #1 FOR COATING  
4. DIMENSIONS ARE RIGHT & LEFT FROM  
0° @ OUTSIDE BOTTOM COURSE  
1" = 8.2729'



TANK PLAN

Reviewed by  
R.J. ROBERTS, INC.  
1. ☒ No Exception Taken.  
2. ☐ Exceptions As Noted.  
3. ☐ Change As Noted and Resubmit.  
An action shown above is subject to the terms of the contract/  
purchase order. It does not relieve contractor/seller from any of  
his obligations under the contract/purchase order, including design  
and detailing.

By 3/10/09 Date 3/10/09  
Job No. \_\_\_\_\_

REV	ZN	DESCRIPTION	U	DATE	BY	CHK
REVISIONS						

APPURTENANCE SCHEDULE

					* FROM TOP OF BTM PLATE AT LOWEST POINT
CUST. I.D.	ITEM	RADIUS	DEGREE	ELEV. #	DESCRIPTION
J	4C	SHELL	120° 273°	1'-6"	GROUND LUGS (2)
	14A	SHELL	SEE PLAN	--	UPPER SPIRAL STAIRS (2)
	16A	SHELL	SEE PLAN	--	LOWER SPIRAL STAIRS
	18A	--	68°	ROOF	PLATFORM
	20A	SHELL	2.13°	50'-6"	LOWER LANDING
	20B	SHELL	35.06°	71'-10"	MID LANDING
A	21A	SHELL	282.5°	0'-0"	48' X 36' FLUSH MANWAY
V	24A	SHELL	262.51°	3'-4 1/2"	36"Ø AGITATOR
V	25A	SHELL	312.50°	3'-4 1/2"	36"Ø AGITATOR
K	26A	SHELL	90°	55'-6"	16"Ø OVER FLOW
C	27A	SHELL	105°	0'-5 1/2"	6"Ø OUTLET
F	28A	SHELL	44°	2'-8"	4"Ø CIRCULATOR
F	29A	SHELL	135°	2'-8"	4"Ø CIRCULATOR
F	30A	SHELL	225°	2'-8"	4"Ø CIRCULATOR
F	31A	SHELL	319°	2'-8"	4"Ø CIRCULATOR
G	32A	SHELL	90°	0'-5 1/2"	4"Ø SPARE
E	33A	SHELL	SEE PAGE 33	1'-6 1/4"	3"Ø HEATERS (4)
X	34A	SHELL	84°	0'-5 1/2"	1 1/2"Ø TRACERS
X	35A	SHELL	84°	56'-5"	1 1/2"Ø TRACERS
H	36A	SHELL	120° 273°	1'-2"	1"Ø THERMOMETERS
S	37A	SEE PLAN	SEE PLAN	ROOF	12"Ø LEVEL
T	38A	36'-3"	SEE PAGE 38	ROOF	8"Ø GAGE HATCH
D	39A	36'-3"	SEE PAGE 39	ROOF	8"Ø INLET
M	40A	36'-3"	80.22°	ROOF	4"Ø SPARE
P	41A	36'-3"	SEE PAGE 41	ROOF	2"Ø NITROGEN
R	42A	36'-3"	SEE PAGE 42	ROOF	HIGH LEVEL
W	43A	0'-0"	SEE PAGE 43	ROOF	1"Ø PT
N	44A	36'-3"	90°	ROOF	24"Ø ROOF MANHOLE
B	45A	36'-3"	SEE PAGE 45	ROOF	8"Ø VENT

MORSE CONSTRUCTION GROUP, INC.

5500 SOUTH FIRST AVE. EVERETT, WA. 98203 (206) 258-2731  
FAX (206) 259-6355

SCALE: N.T.S.	APPROVED BY: <u>WDB</u>	DRAWN BY: WDB
DATE: 01-11-99	UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES	PS-FAC: 160

KOPPERS IND., PORTLAND, OR.  
79'-0"Ø X 57'-0" API

PLAN & APPURTENANCE	SH.# 2 OF 50	2380-PD-6158 DWG #: 23800102
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Koppers001131

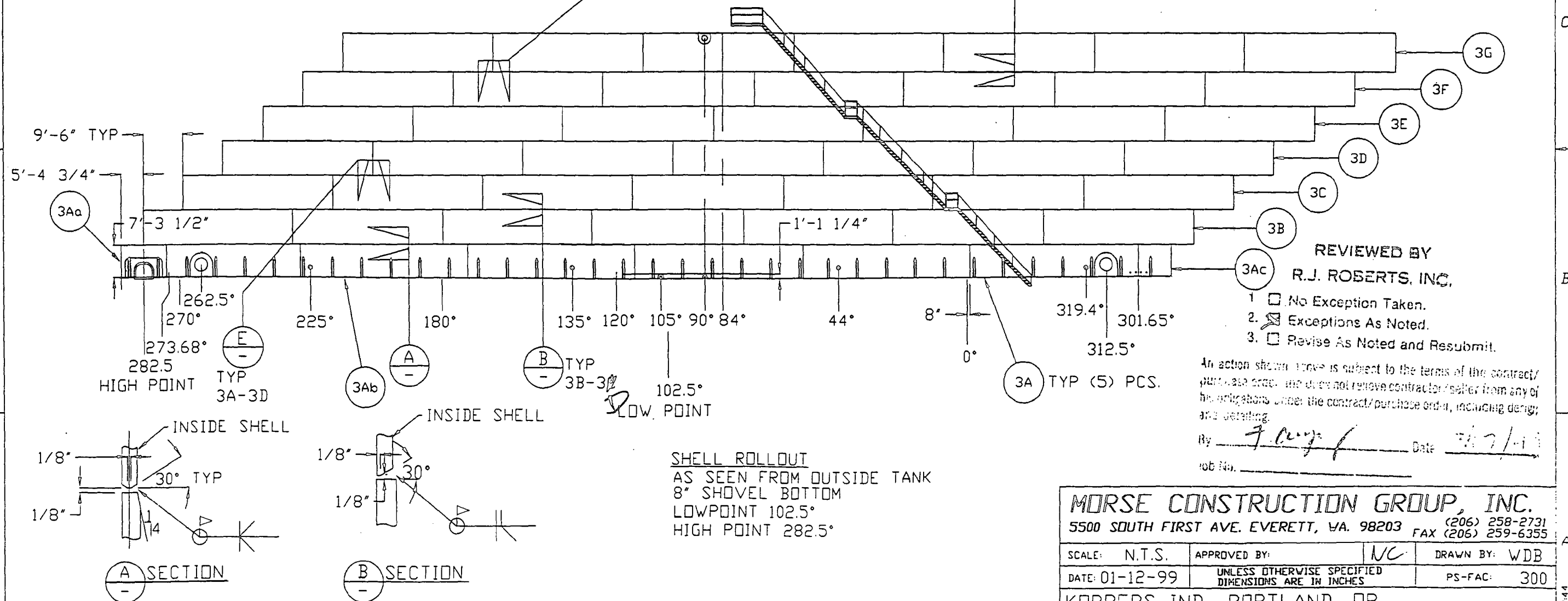
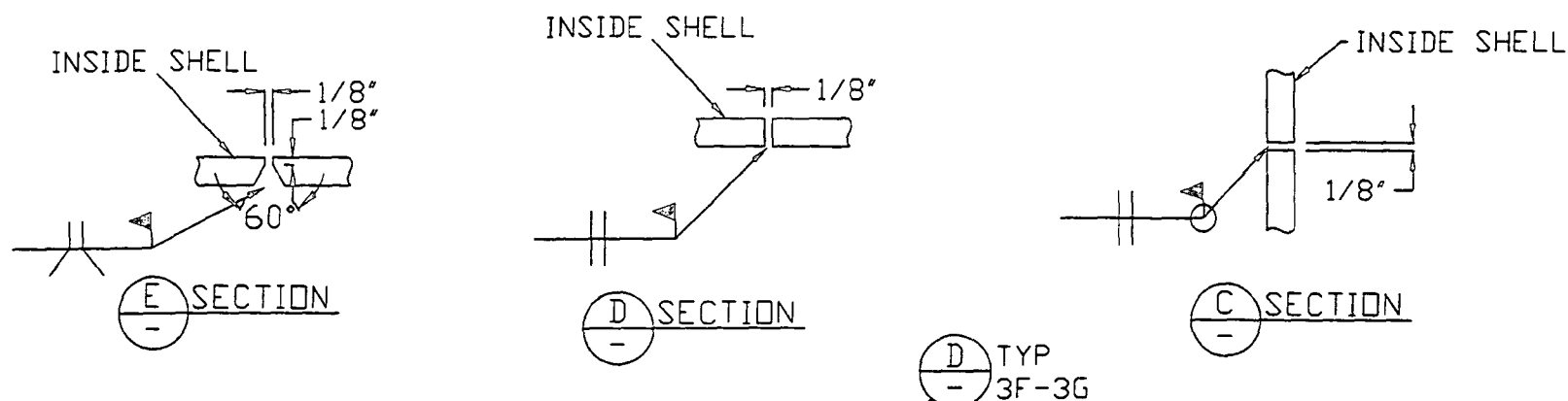


NOTES:  
UNLESS NOTED OTHERWISE  
1. WELD SIZES SHALL EQUAL THICKNESS  
OF THINNER MEMBER JOINED.  
2. SEE SHEET #1 FOR GENERAL NOTES.  
3. SEE SHEET #1 FOR COATING

# BILL OF MATERIALS

# TO SHIP	SHIP MARK	# OF PCS.	ASSY MARK	DESCRIPTION	REMARKS	MATL'S	WT. (Lb.)
5	3A			PL .790 X 8'-0" X 39'-6 5/32"	ROLL	A36*	50725
1	3Aa			PL .875 X 8'-0" X 10'-10"	ROLL	A36*	2782
1	3Ab			PL .790 X 8'-0" X 31'-8 31/32"	ROLL	A36*	9802
1	3Ac			PL .790 X 8'-0" X 7'-9 1/8"	ROLL	A36*	2048
7	3B			PL .577 X 8'-0" X 35'-5 1/16"	ROLL	A573*	46502
7	3C			PL .489 X 8'-0" X 35'-5 1/8"	ROLL	A573*	39413
7	3D			PL .401 X 8'-0" X 35'-5 5/32"	ROLL	A573*	32323
7	3E			PL 5/16 X 7'-11 1/2" X 35'-5 3/16"	ROLL	A573*	25192
7	3F			PL 1/4 X 7'-11 1/2" X 35'-5 7/32"	ROLL	A36	20155
7	3G			PL 1/4 X 8'-11 1/2" X 35'-5 7/32"	ROLL	A36	22688

A36\* = A36 MOD.  
A573\* = A573 GR 70



REVIEWED BY  
R.J. ROBERTS, INC.

- ☐ No Exception Taken.
- ☒ Exceptions As Noted.
- ☐ Revise As Noted and Resubmit.

An action shown above is subject to the terms of the contract/purchase order. The client not remove contractor/seller from any of his obligations under the contract/purchase order, including design and detailing.

By [Signature] Date 7/7/99  
Job No. \_\_\_\_\_

**MORSE CONSTRUCTION GROUP, INC.**  
5500 SOUTH FIRST AVE. EVERETT, WA. 98203 (206) 258-2731  
FAX (206) 259-6355

SCALE: N.T.S. APPROVED BY: MC DRAWN BY: WDB  
DATE: 01-12-99 UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES PS-FAC: 300

KOPPERS IND., PORTLAND, OR.  
79'-0"Ø X 57'-0" API

SHELL ROLLOUT SH.# 2380-PD-6158  
3 OF 50 DWG #: 23800103

REV	ZN	DESCRIPTION	U	DATE	BY	CHK
REVISIONS						

Koppers001132

D

C

B

A

*D*

C

B

A



1  
1

DETAIL

② DETAIL

- A

WD85178 14:03:29

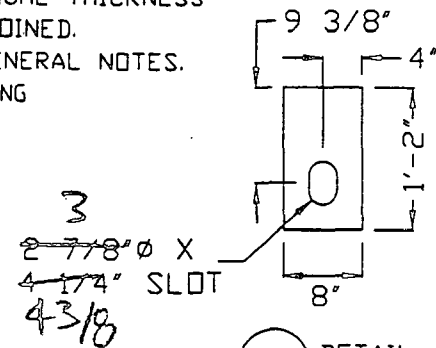
**MORSE CONSTRUCTION GROUP, INC.**  
5500 SOUTH FIRST AVE. EVERETT, WA. 98203 FAX (206) 258-2731  
(206) 259-6355

KOPPERS IND., PORTLAND, OR.  
79'-0"Ø X 57'-0" API

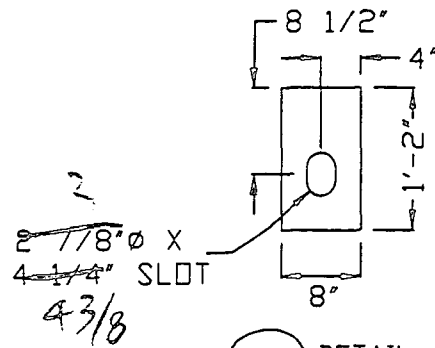
CHINE & RIM DETAIL	SH.#	2380-PD-6158
	4 OF 50	DWG. #: 23800104

REV	ZN	DESCRIPTION	U	DATE	BY	CHK
REVISIONS						

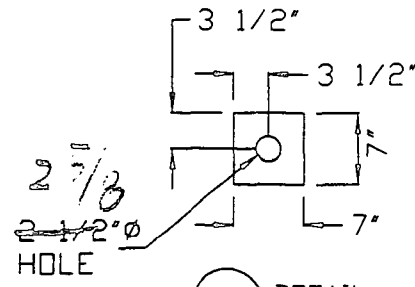
- NOTES:  
UNLESS NOTED OTHERWISE  
1. WELD SIZES SHALL EQUAL THICKNESS  
OF THINNER MEMBER JOINED.  
2. SEE SHEET #1 FOR GENERAL NOTES.  
3. SEE SHEET #1 FOR COATING



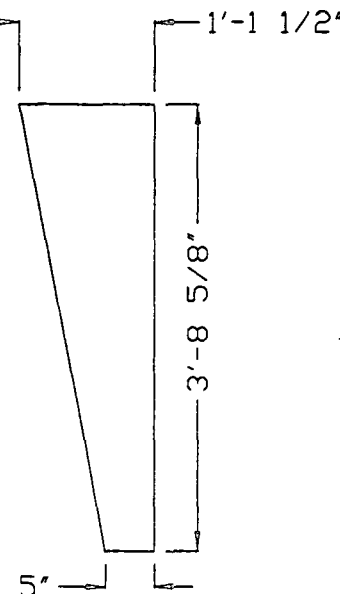
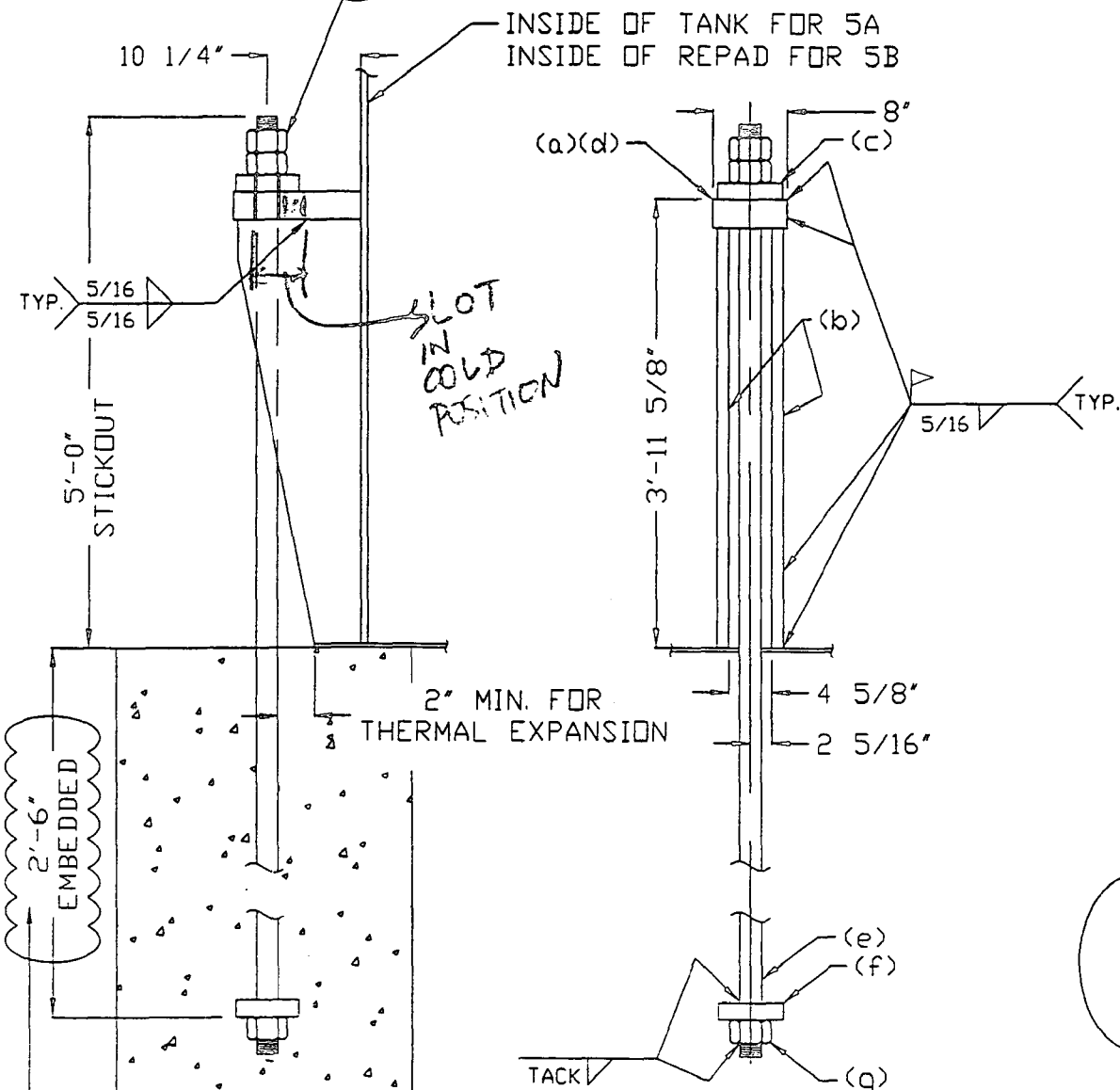
(a) DETAIL  
(34) REQ'D



(d) DETAIL  
(2) REQ'D



(c) DETAIL  
(36) REQ'D



(b) DETAIL  
(72) REQ'D

FIELD NOTE: ANCHOR CHAIRS 5B  
ARE TO BE LOCATED CENTERED  
@ 282.5° ON 48" X 36" FLUSH MANWAY.

## BILL OF MATERIALS

# TO SHIP	SHIP MARK	# OF PCS.	ASSY MARK	DESCRIPTION	REMARKS	MAT'L'S	WT. (Lb.)
34	5A			ANCHOR CHAIR			
		34	a	PL 3 X 0'-8" X 1'-2"	W/HOLE	A36	3226
		68	b	PL 1 1/4 X 1'-1 1/2" X 3'-8 5/8"	TEMP	A36	14098
		34	c	PL 1 3/4 X 0'-7" X 0'-7"	W/HOLE	A36	826
2	5B			ANCHOR CHAIR			
		2	d	PL 3 X 0'-8" X 1'-2"	W/HOLE	A36	180
		4	b	PL 1 1/4 X 1'-1 1/2" X 3'-8 5/8"	TEMP	A36	820
		2	c	PL 1 3/4 X 0'-7" X 0'-7"	W/HOLE	A36	50
36	5C			ANCHOR BOLTS			
		36	e	RB 2 3/8 X 7'-9" THRD 1'-2" BOTH ENDS		A36	4201
		36	f	PL 1 3/4 X 0'-9" X 0'-9"	W/HOLE	A36	1447
		36	g	NUT 2 3/8" UNC		A307	180
72	5Cc			NUT 2 3/8" UNC		A307	360

2 1/2" 7'-0 1/4" CHORD FROM  
CL TO CL OF BOLT  
ON A 80'-8 1/2" B.C.  
1'-7 5/16" STRAP @  
OUTSIDE SHELL TO  
CL OF CHAIR

REVIEWED BY  
R.J. ROBERTS, INC.

- ☐ No Exception Taken.
- ☒ Exceptions As Noted.
- ☐ Review As Noted and Resubmit.

Action shown above is subject to the terms of the contract/  
purchase order and does not relieve contractor/seller from any of  
his obligations under the contract/purchase order, including design  
and detailing.

By 207 Date 3/17/95  
Job No. \_\_\_\_\_

**MORSE CONSTRUCTION GROUP, INC.**  
5500 SOUTH FIRST AVE. EVERETT, WA. 98203 (206) 258-2731  
FAX (206) 259-6355

SCALE: N.T.S. APPROVED BY: WDB DRAWN BY: WDB  
DATE: 01-04-99 UNLESS OTHERWISE SPECIFIED  
DIMENSIONS ARE IN INCHES PS-FAC: 20

KOPPERS IND., PORTLAND, OR.  
79'-0" X 57'-0" API

ANCHOR CHAIR SH.# 2380-PD-6158  
5 OF 50 DWG #: 23800105

REV	ZN	DESCRIPTION	U	DATE	BY	CHK
REVISIONS						

EMBEDDED DIMENSION.  
REF CUSTOMER DRAWING  
98567-S11 REV 0

- NOTES:  
UNLESS NOTED OTHERWISE
1. WELD SIZES SHALL EQUAL THICKNESS OF THINNER MEMBER JOINED.
  2. SEE SHEET #1 FOR GENERAL NOTES.
  3. SEE SHEET #1 FOR COATING
  4. CUT RADIUS 39'-11"
  5. SHOVEL BOTTOM 8" IN 79'-0"
  6. DIMENSIONS ARE  $\phi$  OF WELD TO  $\phi$  OF WELD ON BOTTOM LAYOUT

282.5°  
HIGH POINT

270°

90°

102.5°  
LOW POINT

REVIEWED BY  
R.J. ROBERTS, INC.

1. ☒ No Exception Taken.
2. ☐ Exceptions As Noted.
3. ☐ Revise As Noted and Resubmit.

An action shown above is subject to the terms of the contract/  
purchase order and does not relieve contractor/owner from any of  
his obligations under the contract/purchase order, including design  
and detailing.

By J.R. Roberts Date 3/2/99  
Job No. \_\_\_\_\_

WORK THIS DWG. W/ SHEET 6 & 7

**MORSE CONSTRUCTION GROUP, INC.**  
5500 SOUTH FIRST AVE. EVERETT, VA. 98203 (206) 258-2731  
FAX (206) 259-6355

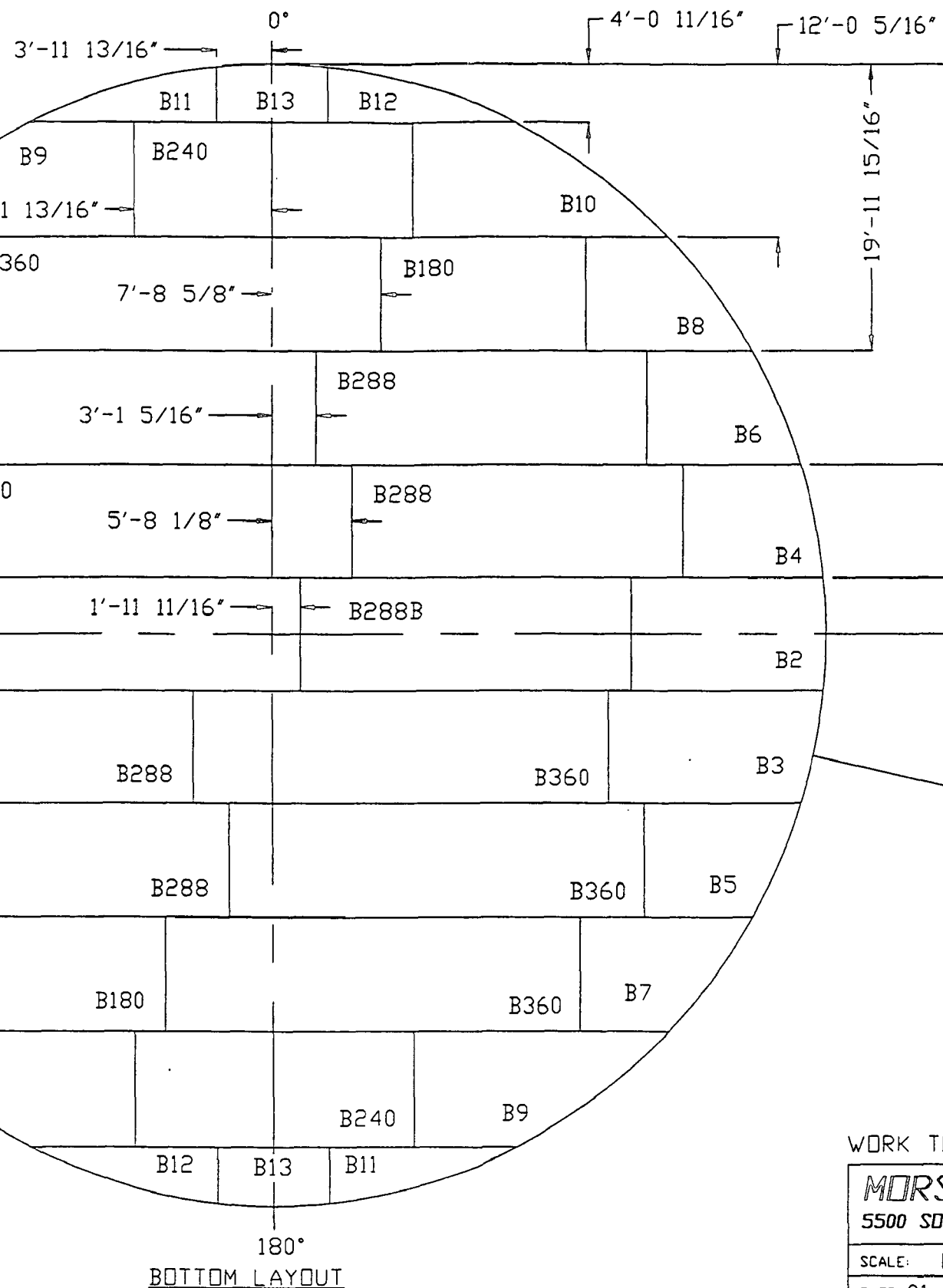
SCALE: N.T.S. APPROVED BY: WDB DRAWN BY: WDB  
DATE: 01-06-99 UNLESS OTHERWISE SPECIFIED  
DIMENSIONS ARE IN INCHES PS-FAC: 130

KOPPERS IND., PORTLAND, OR.  
79'-0"  $\phi$  X 57'-0" API

BOTTOM LAYOUT

SH.# 2380-PD-6158  
6 OF 50 DWG #: 23800106

REV	ZN	DESCRIPTION	U	DATE	BY	CHK
REVISIONS						
3						
2						
4						



180°  
BOTTOM LAYOUT

1  
DETAIL  
TYP BOTTOM WELD

CUSTOMER PLEASE  
VERIFY

Koppers001135

- NOTES:  
UNLESS NOTED OTHERWISE
1. CUT RADIUS IS 39'-11"
  2. ALL NON-RADIUS EDGES ARE BEVELED 30°. (SEE DETAIL 1 PAGE 6).
  3. EDGES WITH DASHED LINES INDICATE THE LOCATION OF BACKING STRIPS. (SEE DETAIL 2 PAGE 7).

## BILL OF MATERIALS

# TO SHIP	SHIP MARK	# OF PCS.	ASSY MARK	DESCRIPTION	REMARKS	MAT'L'S	WT. (Lb.)
13	B*			BOTTOM PL 3/8 X 95.5 X SHETCH	NOTE (2 & 3)	A36	18237
				USE (5) PL 3/8 X 96' X 360'			
6	B360			BOTTOM PL 3/8 X 7'-11 1/2' X 29'-11"	NOTE (2 & 3)	A36	21885
4	B288			BOTTOM PL 3/8 X 7'-11 1/2' X 23'-11"	NOTE (2 & 3)	A36	11663
2	B240			BOTTOM PL 3/8 X 7'-11 1/2' X 19'-11"	NOTE (2 & 3)	A36	4857
43	7A			FB 1/4 X 2 X 20'-0"		A36	4857

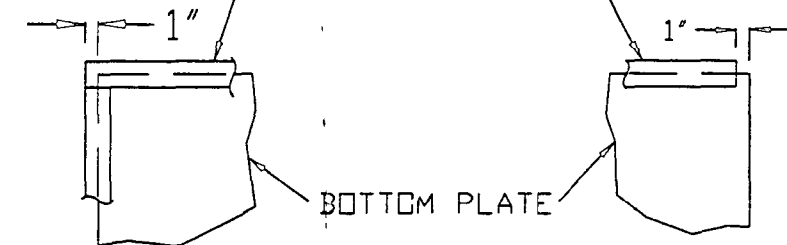
REVIEWED BY  
B\* SKETCHES THIS PAGE ONLY  
R.J. ROBERTS, INC.

1. ☒ No Exception Taken.
2. ☐ Exceptions As Noted.
3. ☐ Revise As Noted and Resubmit.

All action shown above is subject to the terms of the contract/  
purchase order and does not relieve contractor/seller from any of  
his obligations under the contract/purchase order, including design  
and detailing.

By: [Signature] Date: 3/7/99

Job No. 7A TYP 7A



WHEN BACKING STRIPS INTERSECT, EXTEND ONE 1" PAST EDGE OF PLATE.  
WITH NO INTERSECTION SET BACK 1".

2  
-  
DETAIL

BACKING STRIPS  
VIEWED FOR UNDERSIDE  
OF BOTTOM PLATE.

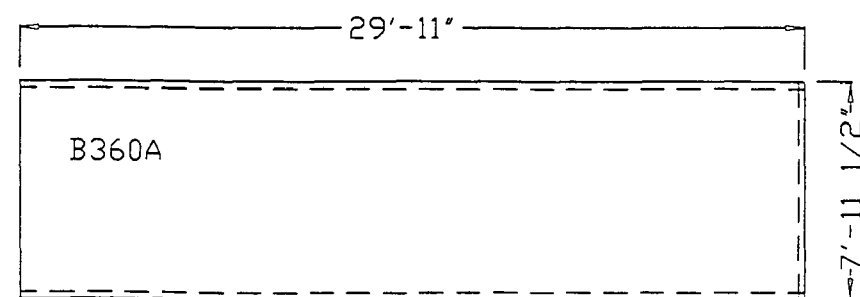
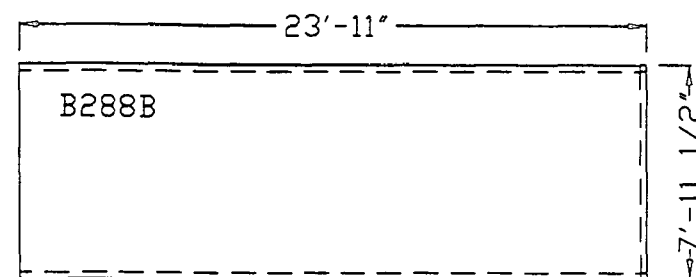
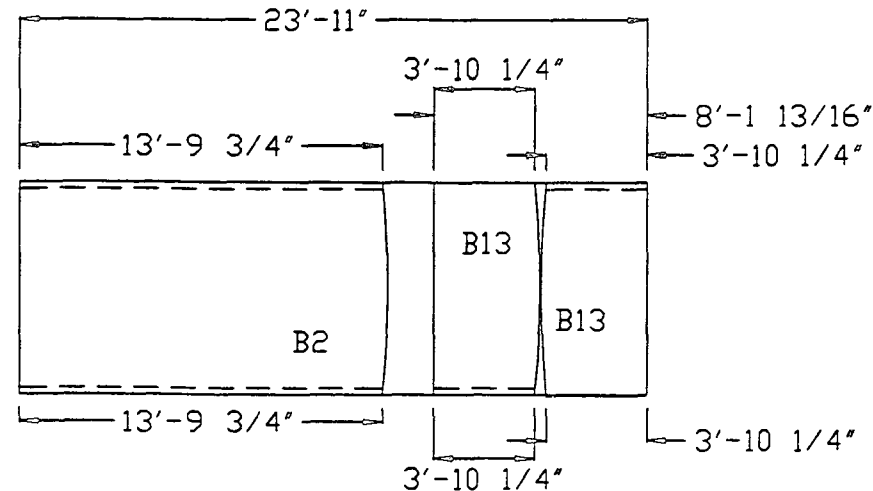
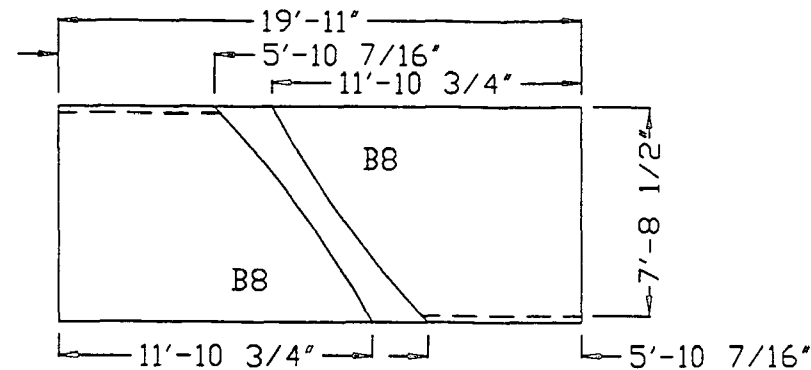
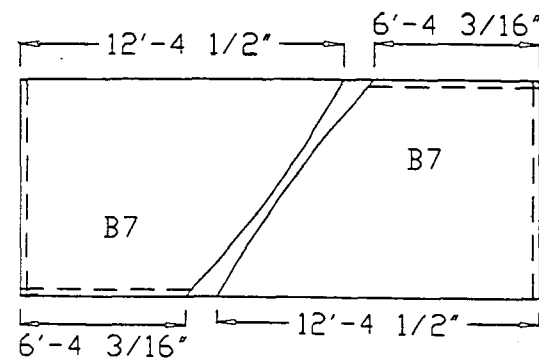
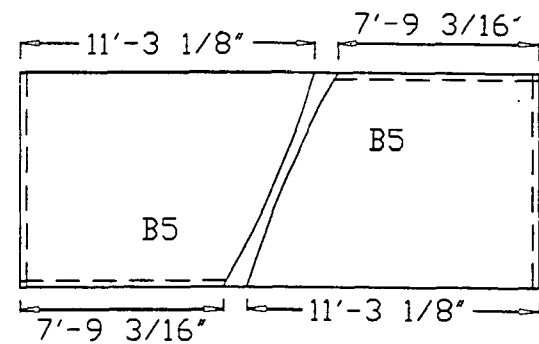
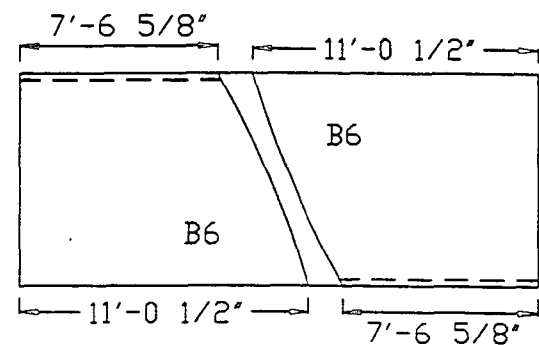
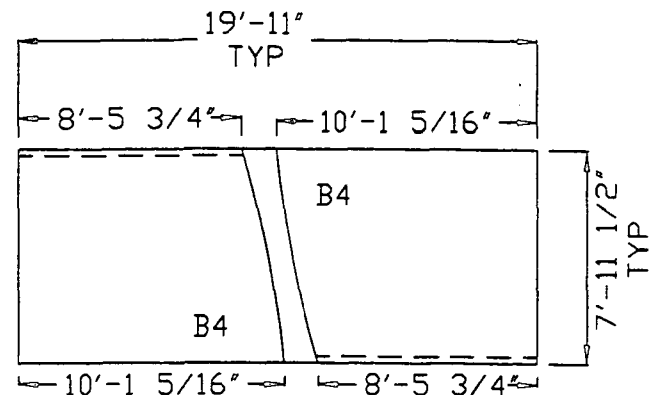
WORK THIS DWG W/SHEET 5

MORSE CONSTRUCTION GROUP, INC.			
5500 SOUTH FIRST AVE. EVERETT, WA. 98203			
SCALE: N.T.S.		APPROVED BY: <u>[Signature]</u>	DRAWN BY: WDB
DATE: 01-06-99		UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES	
KOPPERS IND., PORTLAND, OR.		PS-FAC: 90	
79'-0"Ø X 57'-0" API		SH.# 2380-PD-6158	
BOTTOM SKETCHES		7 OF 50	
		DWG #: 23800107	

REV	ZN	DESCRIPTION	U	DATE	BY	CHK
REVISIONS						

Koppers001136

NOTES:  
UNLESS NOTED OTHERWISE  
1. CUT RADIUS IS 39'-11"  
2. ALL NON-RADIUS EDGES ARE BEVELED 30°. (SEE DETAIL 1 PAGE 6).  
3. EDGES WITH DASHED LINES INDICATE THE LOCATION OF BACKING STRIPS. (SEE DETAIL 2 PAGE 7).



# BILL OF MATERIALS

# TO SHIP	SHIP MARK	# OF PCS.	ASSY MARK	DESCRIPTION	REMARKS	MATL'S	WT. (LB.)
13	B*			BOTTOM PL 3/8 X 95.5 X SHTCH	NOTE (2 & 3)	A36	15057
				USE (5) PL 3/8 X 96' X 240'			
				USE (1) PL 3/8 X 96' X 288'			
1	B360A			BOTTOM PL 3/8 X 7'-11 1/2' X 29'-11'	NOTE (2 & 3)	A36	3647
1	B288B			BOTTOM PL 3/8 X 7'-11 1/2' X 23'-11'	NOTE (2 & 3)	A36	2916

B\* SKETCHES THIS PAGE ONLY.

REVIEWED BY  
R.J. ROBERTS, INC.

- ☒ No Exception Taken.
- ☐ Exceptions As Noted.
- ☐ Revise As Noted and Resubmit.

All action shown above is subject to the terms of the contract/ purchase order and does not relieve contractor/seller from any of his obligations under the contract/purchase order, including design and drawing.

By [Signature] Date 3/7/97  
for No \_\_\_\_\_

WORK THIS DWG W/SHEET 5

**MORSE CONSTRUCTION GROUP, INC.**  
5500 SOUTH FIRST AVE. EVERETT, VA. 98203 (206) 258-2731  
FAX (206) 259-6355

SCALE: N.T.S. APPROVED BY: [Signature] DRAWN BY: WDB  
DATE: 01-06-99 UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES PS-FAC: 90

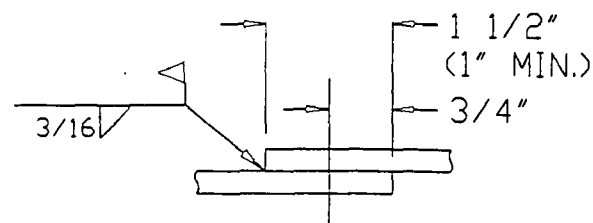
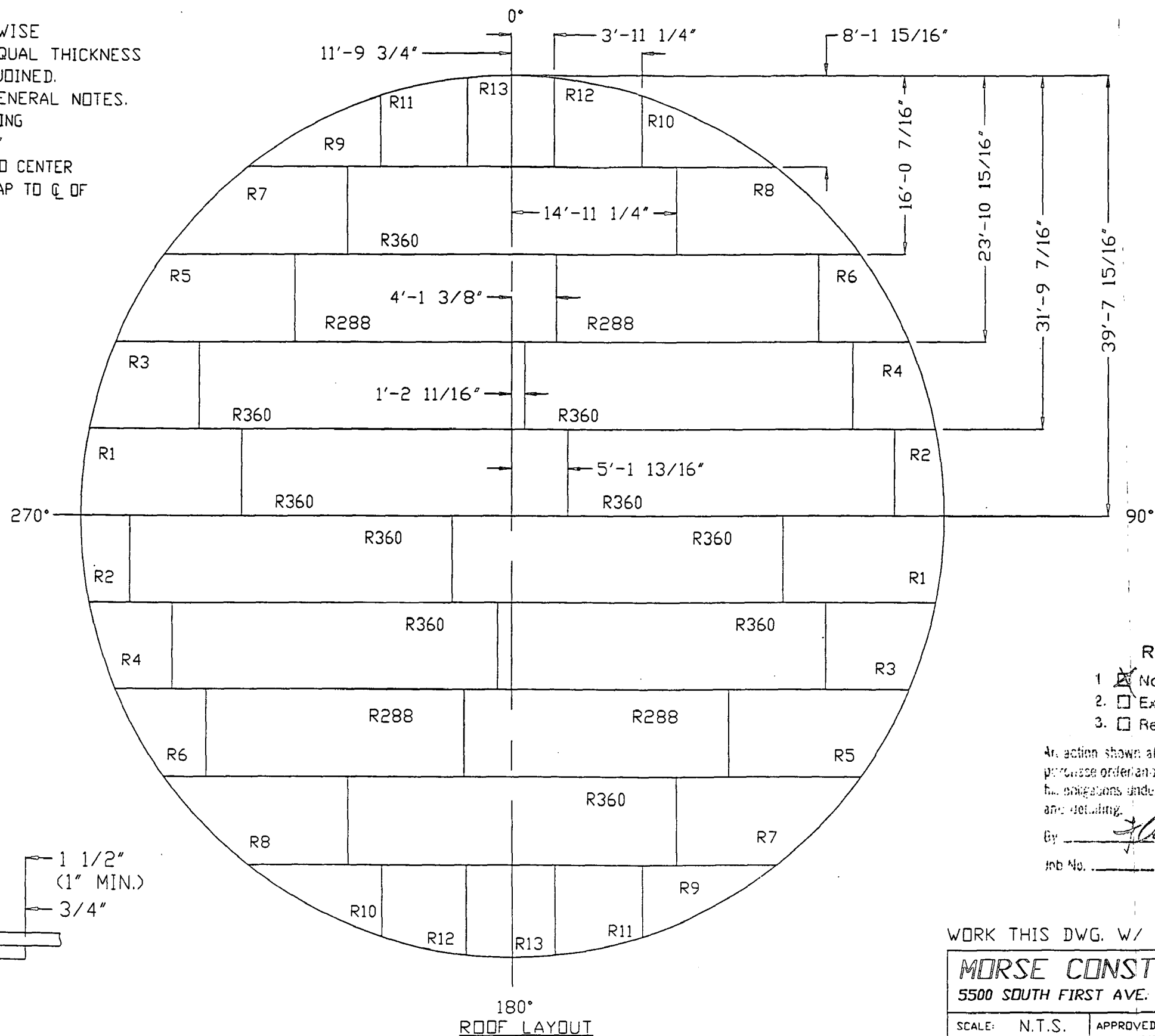
KOPPERS IND., PORTLAND, OR.  
79'-0"Ø X 57'-0" API

BOTTOM SKETCHES SH.# 2380-PD-6158  
8 OF 50 DWG #: 23800108

REV	ZN	DESCRIPTION	U	DATE	BY	CHK
REVISIONS						

Koppers001137

- NOTES:  
UNLESS NOTED OTHERWISE
1. WELD SIZES SHALL EQUAL THICKNESS OF THINNER MEMBER JOINED.
  2. SEE SHEET #1 FOR GENERAL NOTES.
  3. SEE SHEET #1 FOR COATING
  4. CUT RADIUS 39'-7 15/16"
  5. SLOPE 3/4" IN 12' UP TO CENTER
  6. DIMENSIONS ARE  $\phi$  OF LAP TO  $\phi$  OF LAP ON ROOF LAYOUT



TYPICAL ROOF LAP WELD

180°  
ROOF LAYOUT

REVIEWED BY  
R.J. ROBERTS, INC.

1. ☒ No Exception Taken.
2. ☐ Exceptions As Noted.
3. ☐ Revise As Noted and Resubmit.

An action shown above is subject to the terms of the contract/  
purchase order and does not relieve contractor/seller from any of  
his obligations under the contract/purchase order, including design  
and detailing.

By [Signature] Date 3/17/99  
Job No. \_\_\_\_\_

WORK THIS DWG. W/ SHEET 9 & 10

**MORSE CONSTRUCTION GROUP, INC.**  
5500 SOUTH FIRST AVE. EVERETT, WA. 98203 (206) 258-2731  
FAX (206) 259-6355

SCALE: N.T.S. APPROVED BY: [Signature] DRAWN BY: WDB  
DATE: 01-05-99 UNLESS OTHERWISE SPECIFIED  
DIMENSIONS ARE IN INCHES PS-FAC: 130

KOPPERS IND., PORTLAND, OR.  
79'-0"  $\phi$  X 57'-0" API

ROOF LAYOUT SH.# 2380-PD-6158  
9 OF 50 DWG #: 23800109

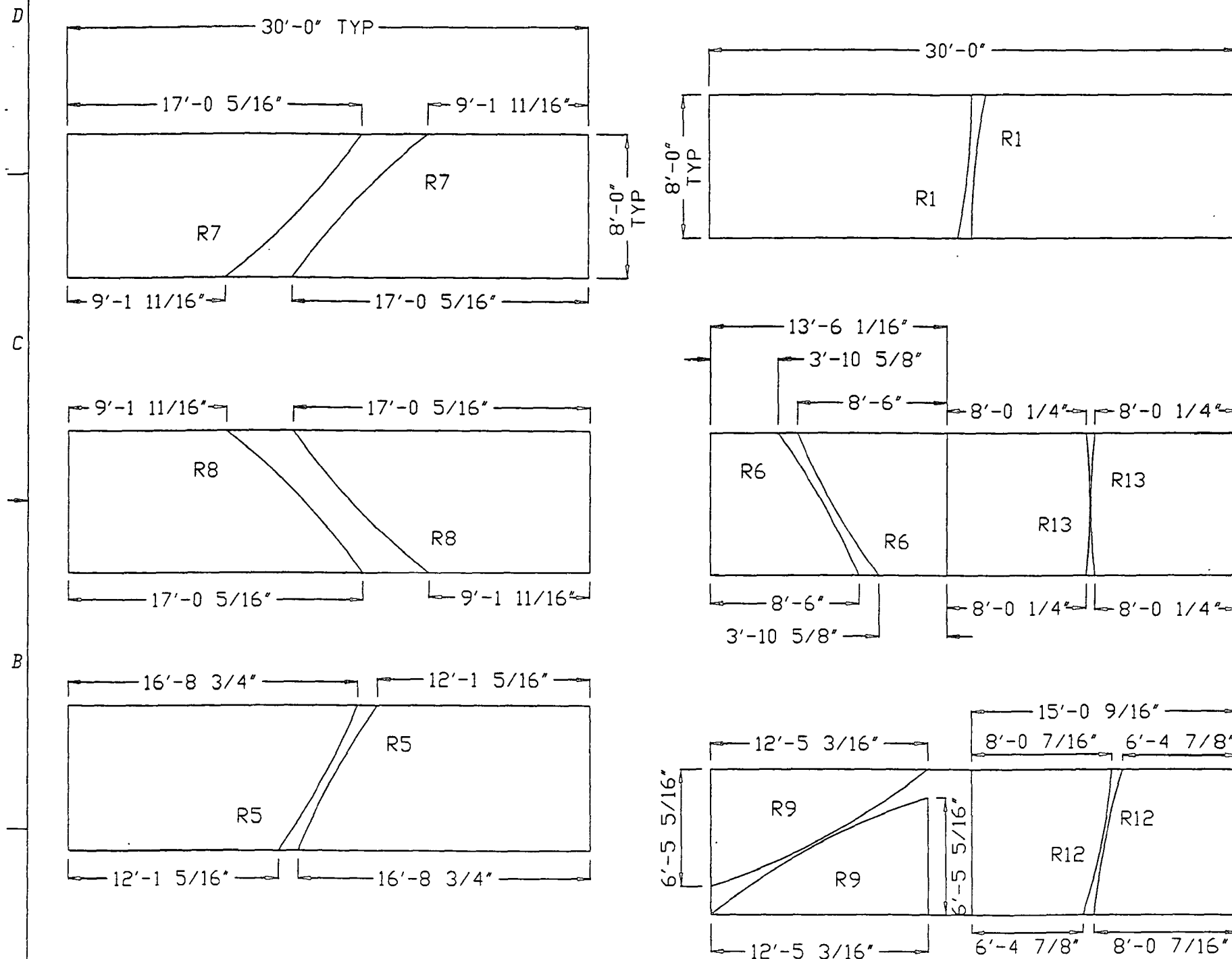
REV	ZN	DESCRIPTION	U	DATE	BY	CHK
REVISIONS						

Koppers001138

NOTES:  
UNLESS NOTED OTHERWISE  
1. CUT RADIUS 39'-7 15/16'

BILL OF MATERIALS						
# TO SHIP	SHIP MARK	# OF PCS.	ASSY MARK	DESCRIPTION	REMARKS	MAT'L'S WT. (Lb.)
16	R#			PL 3/8 X 96" X SKETCH		A36 22060
				USE (6) PL 3/8 X 96" X 360"		

R\* ROOF SKETCHES THIS PAGE ONLY



REVIEWED BY  
R.J. ROBERTS, INC.


1. ☒ No Exception Taken.  
2. ☐ Exceptions As Noted.  
3. ☐ Revise As Noted and Resubmit.

An action shown above is subject to the terms of the contract/  
purchase order and does not relieve contractor/seller from any of  
his obligations under the contract/purchase order, including design  
and detailing.

By Fang Date 3/2/04  
 Job No. \_\_\_\_\_

WORK THIS DWG. W/ SHEET 9

**MORSE CONSTRUCTION GROUP, INC.**  
5500 SOUTH FIRST AVE. EVERETT, WA. 98203 FAX (206) 258-2731  
(206) 259-6355

SCALE: N.T.S.	APPROVED BY: 	DRAWN BY: WDB
DATE: 01-05-99	UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES	PS-FAC: 90

KOPPERS IND., PORTLAND, OR.  
79'-0"Ø X 57'-0" API

ROOF SKETCHES	SH.#	2380-PD-6158
	10 OF 50	DWG #:23800110

REV	ZN	DESCRIPTION	U	DATE	BY	CHK
REVISIONS						

Koppers001139

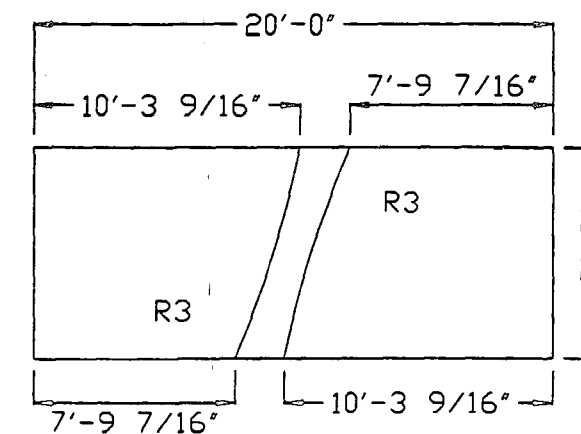
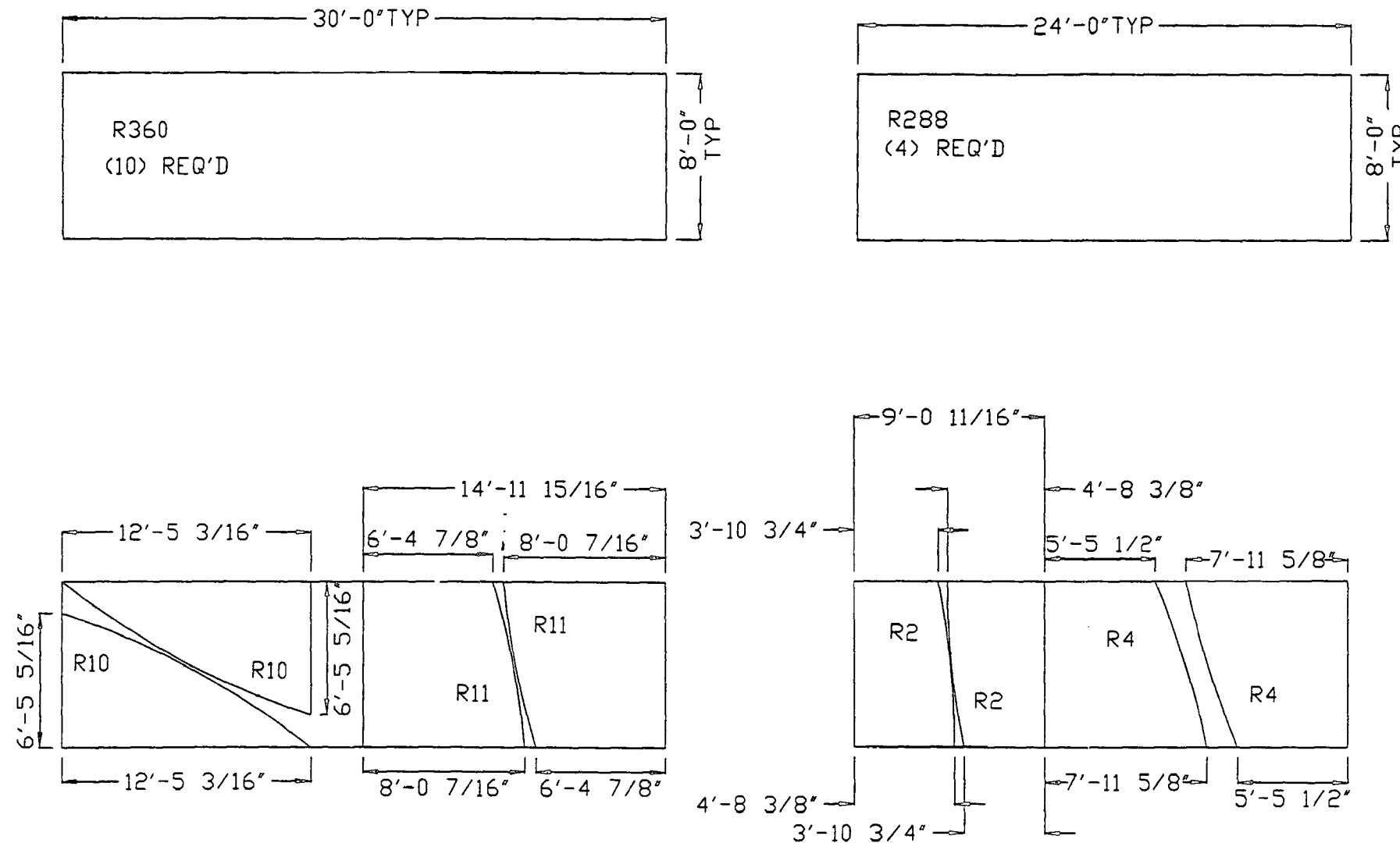
WDB5177 14:49:13



NOTES:  
UNLESS NOTED OTHERWISE  
1. CUT RADIUS 39'-7 15/16"

BILL OF MATERIALS						
# TO SHIP	SHIP MARK	# OF PCS.	ASSY MARK	DESCRIPTION	REMARKS	MATL'S W.T. (Lb.)
10	R#			PL 3/8 X 96" X SKETCH		A36 9069
				USE (1) PL 3/8 X 96" X 360'		
				USE (1) PL 3/8 X 96" X 288'		
				USE (1) PL 3/8 X 96" X 240'		
10	R360			PL 3/8 X 96" X 360'		A36 36768
4	R288			PL 3/8 X 96" X 288'		A36 11766

R\* ROOF SKETCHES THIS PAGE ONLY



REVIEWED BY  
R.J. ROBERTS, INC.

1. ☒ No Exception Taken.
2. ☐ Exceptions As Noted.
3. ☐ Revise As Noted and Resubmit.

An action shown above is subject to the terms of the contract/  
purchase order and does not relieve contractor/seller from any of  
his obligations under the contract/purchase order, including design  
and detailing.

By [Signature] Date 3/1/

Job No. \_\_\_\_\_

WORK THIS DWG. W/ SHEET 9

**MORSE CONSTRUCTION GROUP, INC.**  
5500 SOUTH FIRST AVE. EVERETT, WA. 98203 FAX (206) 258-2731  
(206) 259-6355

SCALE: N.T.S.	APPROVED BY: <i>UC</i>	DRAWN BY: WDB
DATE: 01-05-99	UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES	PS-FAC: 90

KOPPERS IND., PORTLAND, OR.  
79'-0"Ø X 57'-0" API

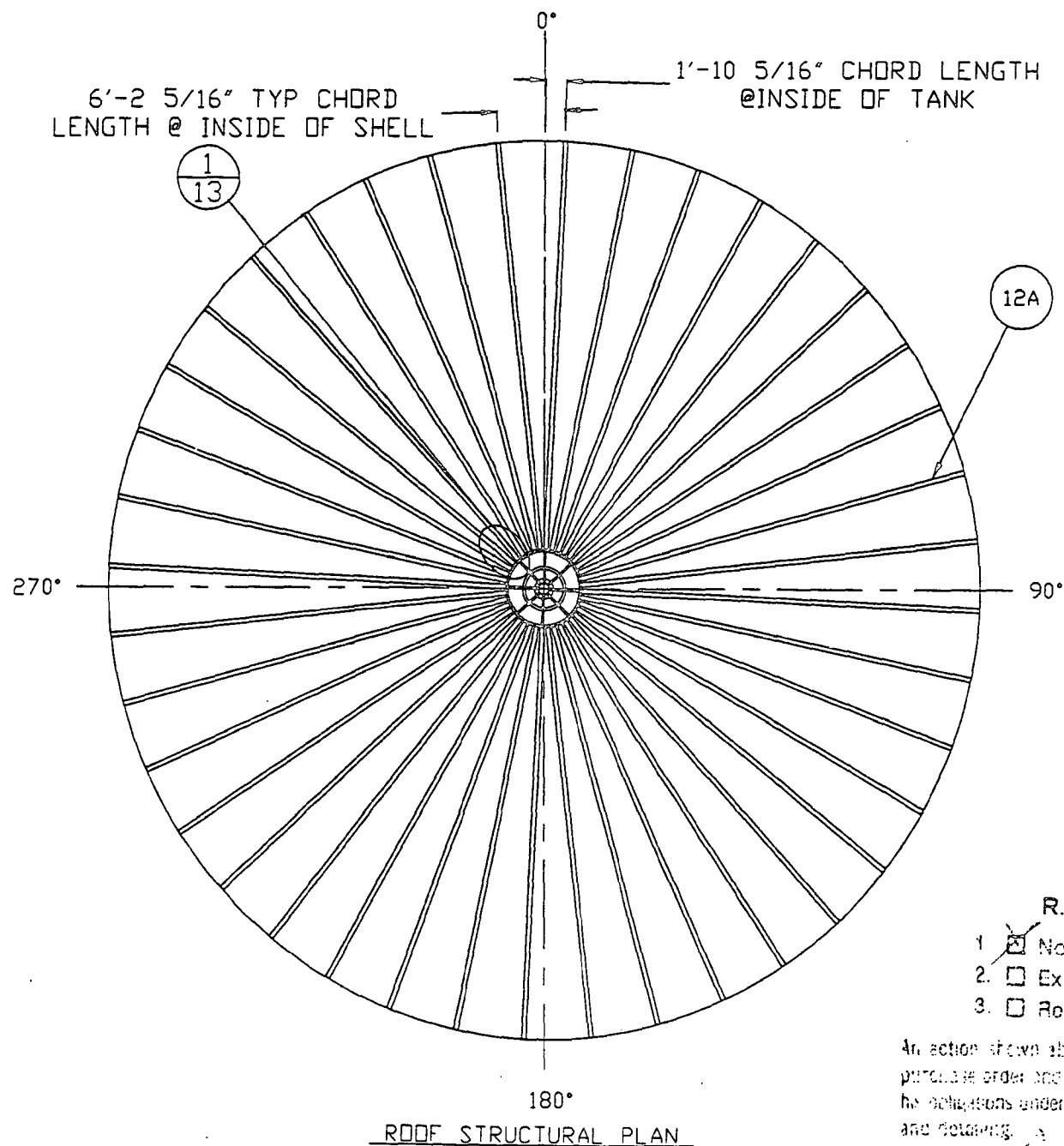
ROOF SKETCHES	SH.#	2380-PD-6158
	11 OF 50	DWG #: 23800111

REV	ZN	DESCRIPTION	U	DATE	BY	CHK
REVISIONS						

Koppers001140

WDBS177 14:49:37

- NOTES:  
UNLESS NOTED OTHERWISE
1. WELD SIZES SHALL EQUAL THICKNESS OF THINNER MEMBER JOINED.
  2. SEE SHEET #1 FOR GENERAL NOTES.
  3. SEE SHEET #1 FOR COATING



ROOF STRUCTURAL PLAN

REVIEWED BY  
R.J. ROBERTS, INC.

- 1. ☒ No Exception Taken.
- 2. ☐ Exceptions As Noted.
- 3. ☐ Revise As Noted and Resubmit.

An action shown above is subject to the terms of the contract/purchase order and does not relieve contractor/seller from any of his obligations under the contract/purchase order, including design and detailing.

By [Signature] Date 4-1-99

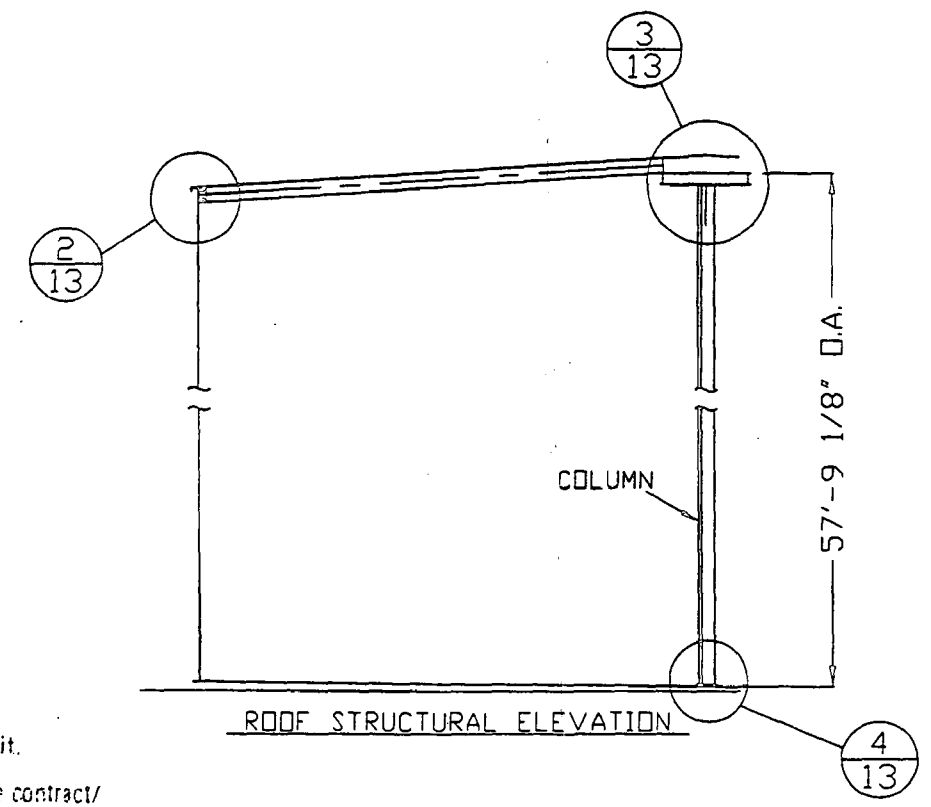
Job No. \_\_\_\_\_

REV	ZN	DESCRIPTION	U	DATE	BY	CHK
REVISIONS						

BILL OF MATERIALS

# TO SHIP	SHIP MARK	# OF PCS.	ASSY MARK	DESCRIPTION	REMARKS	MAT'L'S	WT. (Lb.)
40	12A			W14 X 22# X 36'-5"	W/HOLES	A36	32047
40	12Aa			PL 3/8 X 0'-7 1/4' X 0'-10'	W/SLOTS	A36	309
126	12Ab			BOLT 3/4" X 0'-3' W/(2)-NUTS & FW	PLATED	A307	120
1	12B			COLUMN CAP			
		8	a	W12 X 22# X 2'-11 3/8"		A36	528
		1	b	CB X 11.5# X 22'-8 1/8"	ROLL#	A36	261
		1	c	PL 1 1/4' X 22"Ø		A36	135
		1	d	PL 1/2 X 22"Ø		A36	54
1	12C			COLUMN			
		1	e	C15 X 33.9# X 56'-6 1/8"		A36	1921
		1	f	C12 X 25# X 56'-6 1/8"		A36	1418
1	12D			PL 1 3/8 X 1'-8" X 1'-8"		A36	156
2	12E			L5 X 5 X 3/8 X 0'-8"		A36	16

ROLL# = ROLL EW 3'-3 3/8" I.S.R.



ROOF STRUCTURAL ELEVATION

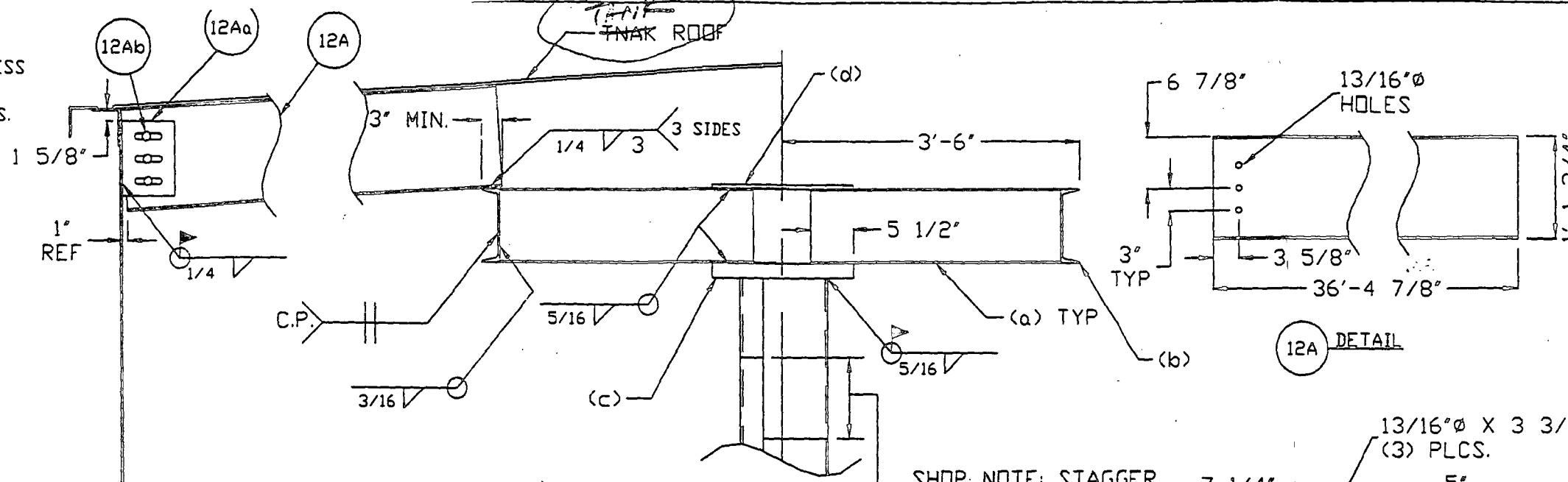
WORK THIS DWG W/SHEET 13

**MORSE CONSTRUCTION GROUP, INC.**  
5500 SOUTH FIRST AVE. EVERETT, WA. 98203  
(206) 258-2731 FAX (206) 259-6355

SCALE: N.T.S.	APPROVED BY: <u>[Signature]</u>	DRAWN BY: WDB
DATE: 01-06-99	UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES	
KOPPERS IND., PORTLAND, OR. 79'-0"Ø X 57'-0" API		
ROOF STRUCTURAL		SH.# 2380-PD-6158 12 OF 50 DWG #: 23800112

Koppers001141

- UNLESS NOTED OTHERWISE
1. WELD SIZES SHALL EQUAL THICKNESS OF THINNER MEMBER JOINED.
  2. SEE SHEET #1 FOR GENERAL NOTES.
  3. SEE SHEET #1 FOR COATING



2  
12  
DETAIL

REVIEWED BY  
R.J. ROBERTS, INC.

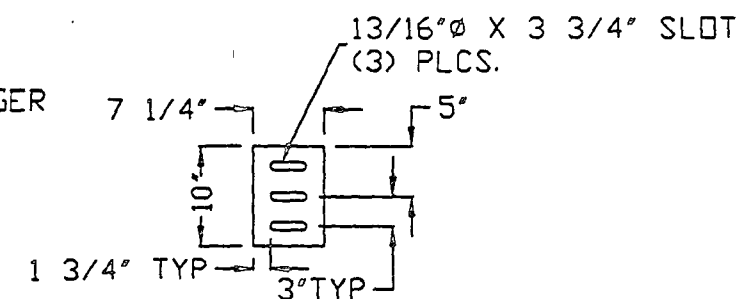
1. ☐ No Exception Taken.
2. ☒ Exceptions As Noted.
3. ☐ Revise As Noted and Resubmit.

In action shown above is subject to the terms of the contract/  
purchase order and does not relieve contractor/seller from any of  
his obligations under the contract/purchase order, including design  
and detailing.

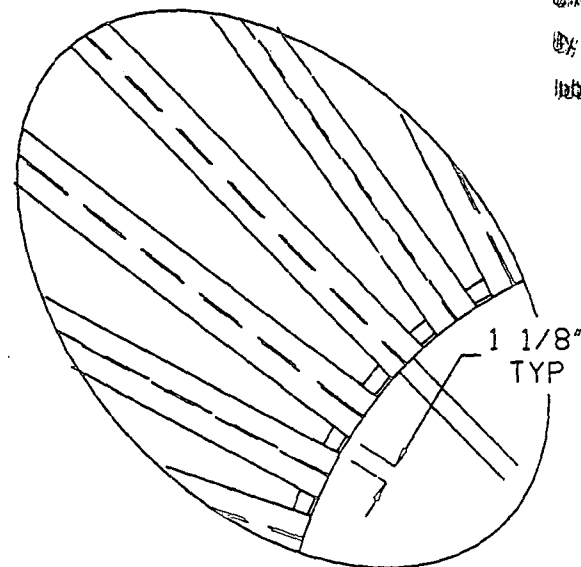
By: for Lu Young Date: 3/7/99  
Title: Rev.

3  
12  
DETAIL  
12B

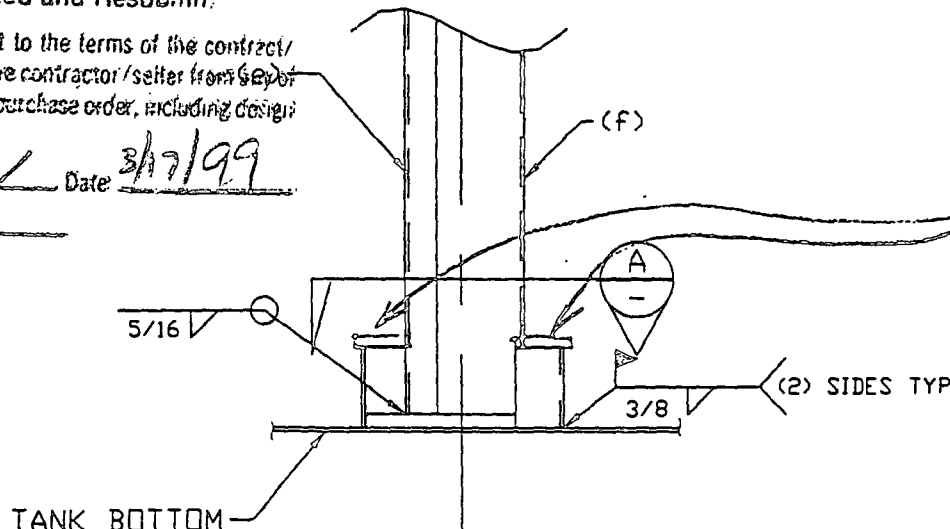
SHOP NOTE: STAGGER  
SPICES 12" MIN.



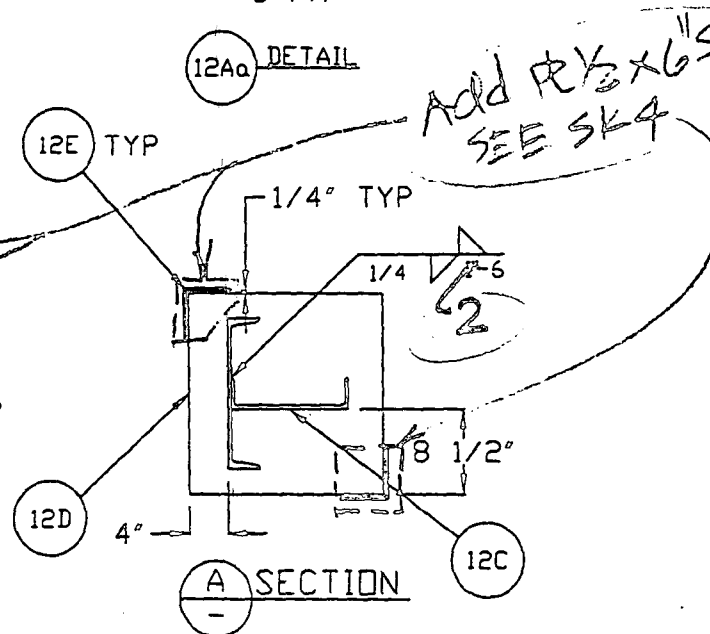
12Aa  
DETAIL



1  
12  
DETAIL



4  
12  
DETAIL  
12C



12D  
4\"/>

WORK THIS DWG W/SHEET 11

**MORSE CONSTRUCTION GROUP, INC.**  
5500 SOUTH FIRST AVE. EVERETT, WA. 98203 (206) 258-2731  
FAX (206) 259-6355

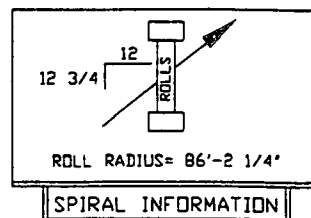
SCALE: N.T.S. APPROVED BY: WDB DRAWN BY: WDB  
DATE: 01-06-99 UNLESS OTHERWISE SPECIFIED  
DIMENSIONS ARE IN INCHES PS-FAC: 20

KOPPERS IND., PORTLAND, OR.  
79'-0"Ø X 57'-0" API

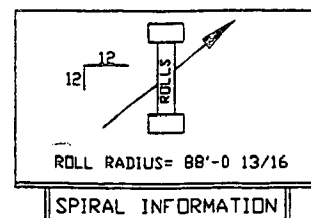
STRUCTURAL DETAILS SH.# 2380-PD-6158  
13 OF 50 DWG #: 23800113

REV	ZN	DESCRIPTION	U	DATE	BY	CHK
REVISIONS						

- NOTES:  
UNLESS NOTED OTHERWISE
1. WELD SIZES SHALL EQUAL THICKNESS OF THINNER MEMBER JOINED.
  2. SEE SHEET #1 FOR GENERAL NOTES.
  3. SEE SHEET #1 FOR COATING



INSIDE STRINGER



OUTSIDE STRINGER

REVIEWED BY

R.J. ROBERTS, INC.

1. ☒ No Exception Taken.
2. ☐ Exceptions As Noted.
3. ☐ Revise As Noted and Resubmit.

An action shown above is subject to the terms of the contract/purchase order and does not relieve contractor/seller from any of his obligations under the contract/purchase order, including design and detailing.

By: [Signature] Date: 3/17/99

Job No. \_\_\_\_\_

PLATFORM/LANDING POST

18A ELEV. 93'-2"  
19A ELEV. 71'-10"

18A  
19A

14A

TYP 14F

14C

typ.

14B

14C

14D TYP

19A

19B

19A ELEV. 71'-10"  
19B ELEV. 50'-6"

REVIEWED BY  
J. CAMERON McKERNAN COMPANY

1. ☐ Complies with design drawing:  
No exceptions taken.
2. ☒ Exceptions as noted.
3. ☐ Revise as noted and re-submit.

By: C. McKernan Date: 4-13-99

File No: P997-10

SHOP NOTE: DIMENSION  
ARE IN FLAT PATTERN

14A SPIRAL STAIR

14B SPIRAL STAIR

19'-6 5/8" STRAP @ SHELL REF.

REV	ZN	DESCRIPTION	U	DATE	BY	CHK
-----	----	-------------	---	------	----	-----

REVISIONS

## BILL OF MATERIALS

# TO SHIP	SHIP MARK	# OF PCS.	ASSY MARK	DESCRIPTION	REMARKS	MAT'L'S	WT. (Lb.)
2	14A			UPPER SPIRAL STAIRS (TOP SECTION)			
		2	Q	PL 3/8 X 0'-9" X 15'-4 1/16"	TEMP/ROLL	A36	352
		2	Q.Q	PL 3/8 X 0'-9" X 14'-10 7/8"	TEMP/ROLL	A36	342
		8	b	PIPE 1 1/2" STD. X 2'-11 3/8"	M1E/C1E	A120	49
		2	C	PIPE 1 1/2" STD. X 15'-5 1/16"	M2E	A120	84
		2	CC	PIPE 1 1/2" STD. X 14'-8 13/16"	M2E	A120	80
		2	d	PIPE 1 1/2" STD. X 7'-3 1/16"	M2E/C2E	A120	40
		2	dd	PIPE 1 1/2" STD. X 7'-0 9/16"	M2E/C2E	A120	39
		2	e	PIPE 1 1/2" STD. X 7'-10 9/16"	M2E/C1E	A120	43
		2	ee	PIPE 1 1/2" STD. X 7'-5 3/16"	M2E/C1E	A120	40
		8	v	PL 3/16 X 0'-1 5/8"		A36	3
		32	r	GRATING 3/16 X 1 X 0'-9" X 2'-4"	19-4-W	CS	399
		128	s	FB 1/4 X 2 X 0'-4"		A36	90
2	14B			UPPER SPIRAL STAIRS (LOWER SECTION)			
		2	f	PL 3/8 X 0'-9" X 14'-8 3/8"	TEMP/ROLL	A36	337
		2	ff	PL 3/8 X 0'-9" X 14'-3 9/16"	TEMP/ROLL	A36	326
		8	b	PIPE 1 1/2" STD. X 2'-11 3/8"	M1E/C1E	A120	50
		2	g	PIPE 1 1/2" STD. X 14'-9 9/16"	M2E/CAP1E	A120	77
		2	gg	PIPE 1 1/2" STD. X 14'-4 5/8"	M2E/CAP1E	A120	75
		8	v	PL 3/16 X 0'-1 5/8"		A36	3
		30	r	GRATING 3/16 X 1 X 0'-9" X 2'-4"	19-4-W	CS	370
		120	s	FB 1/4 X 2 X 0'-4"		A36	85
4	14C			KNEE BRACE			
		4	m	L3 X 3 X 1/4" X 3'-2 1/2"		A36	62
		4	n	L3 X 3 X 1/4" X 3'-11"		A36	77
		8	p	PL 3/8 X 0'-11" X 0'-11"	TEMP	A36	103
8	14D			PL 3/8 X 0'-6" X 1'-2"		A573*	71
8	14F			FB 1/4 X 3 X 0'-6"		A36	10

HOT DIP GALV.  
AFTER FAB

WORK THIS DWG. W/SHEET 15

MORSE CONSTRUCTION GROUP, INC.

5500 SOUTH FIRST AVE. EVERETT, WA. 98203 (206) 258-2731  
FAX (206) 259-6355

SCALE: N.T.S. APPROVED BY: [Signature] DRAWN BY: WDB

DATE: 01-06-99 UNLESS OTHERWISE SPECIFIED  
DIMENSIONS ARE IN INCHES PS-FAC: 45

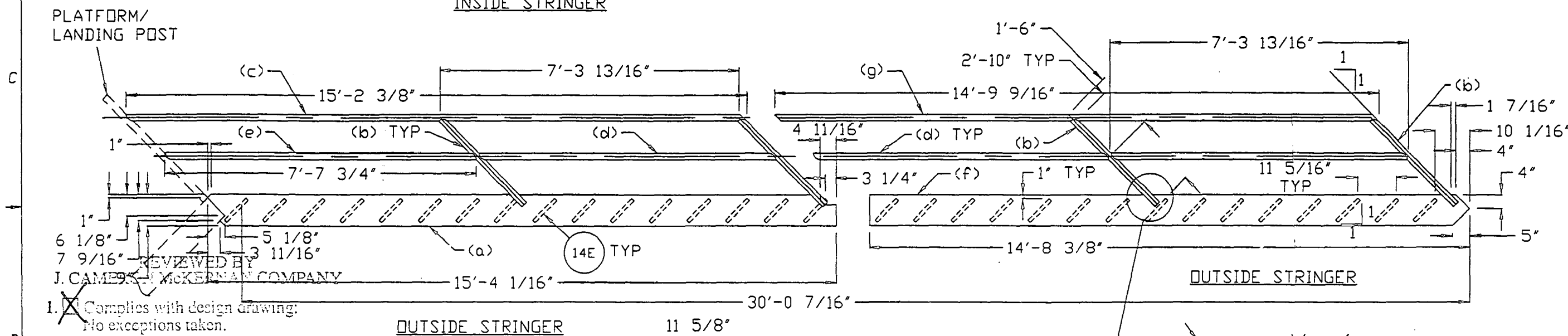
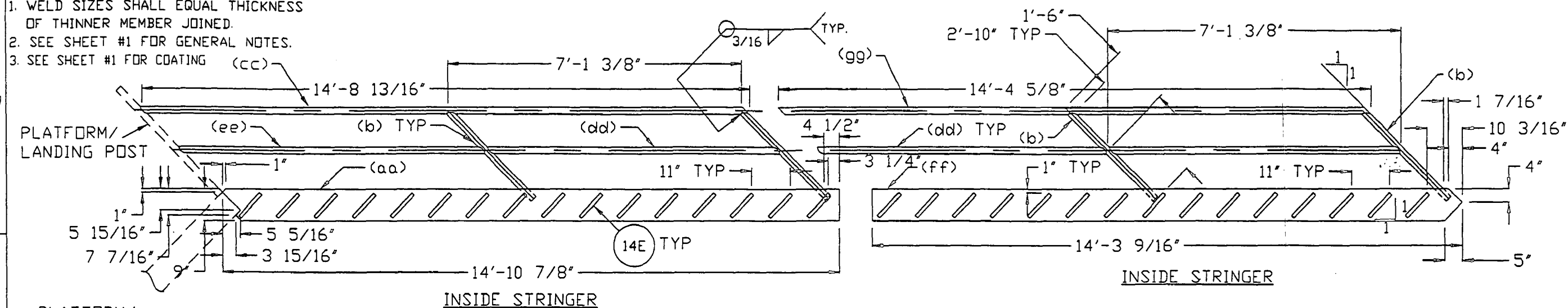
KOPPERS IND., PORTLAND, OR.  
79'-0"Ø X 57'-0" API

UPPER SPIRAL STAIRS SH.# 2380-PD-6158  
14 OF 50 DWG #: 23800114

Koppers001143

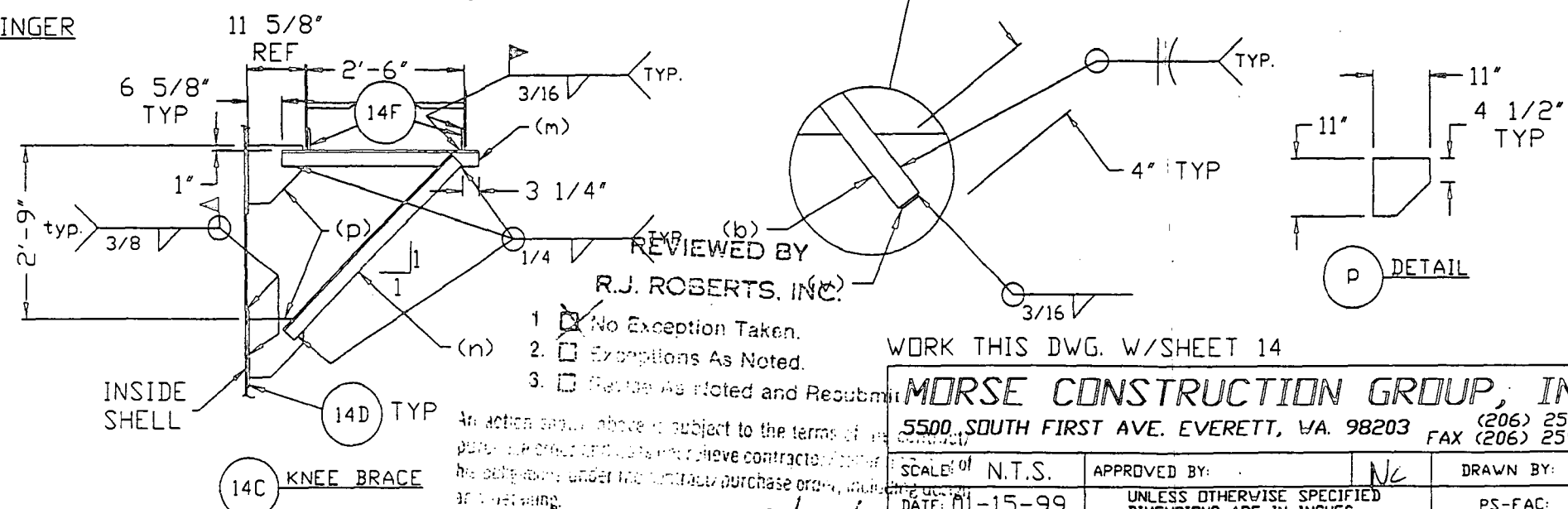
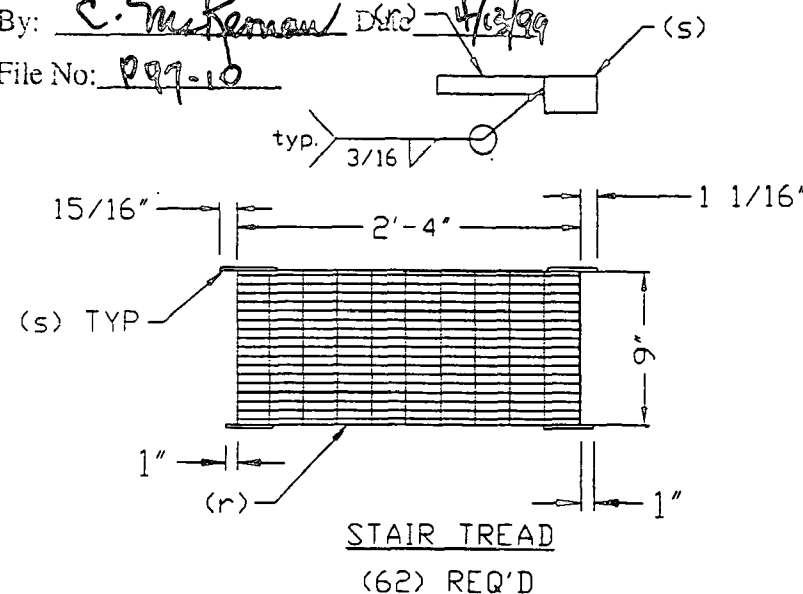
UNLESS NOTED OTHERWISE

1. WELD SIZES SHALL EQUAL THICKNESS OF THINNER MEMBER JOINED.
2. SEE SHEET #1 FOR GENERAL NOTES.
3. SEE SHEET #1 FOR COATING (CC)



1. ☒ Complies with design drawing:  
No exceptions taken.
2. ☐ Exceptions as noted.
3. ☐ Revise as noted and re-submit.

By: C. McKernan Date: 4/2/99  
File No: 99-10



1. ☒ No Exception Taken.

2. ☐ Exceptions As Noted.

3. ☐ Review As Noted and Resubmit

WORK THIS DWG. W/SHEET 14

MORSE CONSTRUCTION GROUP, INC.

5500 SOUTH FIRST AVE. EVERETT, WA. 98203 FAX (206) 259-635

SCALE: 01 N.T.S.	APPROVED BY:	N/C	DRAWN BY: WDE
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DATE: 01-15-99	UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES	PS-FAC: 32
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KOPPERS IND. PORTLAND, OR.

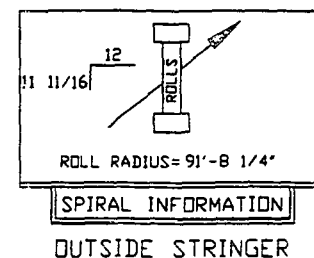
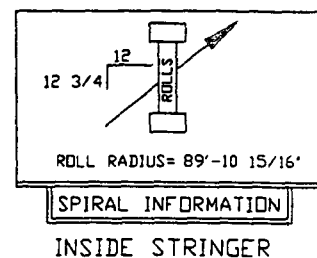
79'-0"Ø X 57'-0" API

SH.#	2380-PD-6158
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UPPER STAIR DETAILS 15 OF 50 DWG #: 23800115

Koppers001144

- NOTES:  
UNLESS NOTED OTHERWISE
1. WELD SIZES SHALL EQUAL THICKNESS OF THINNER MEMBER JOINED.
  2. SEE SHEET #1 FOR GENERAL NOTES.
  3. SEE SHEET #1 FOR COATING



REVIEWED BY  
R.J. ROBERTS, INC.

1. ☒ No Exception Taken.
2. ☐ Exceptions As Noted.
3. ☐ Revise As Noted and Resubmit.

An action shown above is subject to the terms of the contract/ purchase order and does not relieve contractor from any of his obligations under the contract/ purchase order, including design and detailing.

By J.R. Date 3/17/99  
Job No. \_\_\_\_\_

# BILL OF MATERIALS

# TO SHIP	SHIP MARK	# OF PCS.	ASSY MARK	DESCRIPTION	REMARKS	MATL'S	WT. (Lb.)
1	16A			LOWER SPRIL STAIRS (TOP SECTION)			
		1	a	PL 3/8 X 0'-9" X 12'-9 7/8"	TEMP/ROLL	A36	147
		1	QQ	PL 3/8 X 0'-9" X 12'-5 3/8"	TEMP/ROLL	A36	143
		4	b	PIPE 1 1/2" STD. X 2'-11 3/8"	M1E/C1E	A120	25
		2	C	PIPE 1 1/2" STD. X 12'-10"	M2E	A120	35
		1	CC	PIPE 1 1/2" STD. X 12'-5 5/8"	M2E	A120	34
		2	d	PIPE 1 1/2" STD. X 6'-3 1/4"	M2E/C2E	A120	34
		2	dd	PIPE 1 1/2" STD. X 6'-1 1/16"	M2E/C2E	A120	31
		4	v	PL 3/16 X 0'-1 5/8"		A36	1
		14	r	GRATING 3/16 X 1 X 0'-9" X 2'-4"	19-4-W	CS	176
		56	S	FB 1/4 X 2 X 0'-4"		A36	30
1	16B			LOWER SPRIL STAIRS (LOWER SECTION)			
		1	e	PL 3/8 X 0'-9" X 12'-9 7/16"	TEMP/ROLL	A36	145
		1	ee	PL 3/8 X 0'-9" X 12'-5 5/16"	TEMP/ROLL	A36	143
		4	b	PIPE 1 1/2" STD. X 2'-11 3/8"	M1E/C1E	A120	25
		1	CC	PIPE 1 1/2" STD. X 12'-5 5/8"	M2E	A120	34
		2	d	PIPE 1 1/2" STD. X 6'-3 1/4"	M2E/C2E	A120	34
		2	dd	PIPE 1 1/2" STD. X 6'-1 1/16"	M2E/C2E	A120	31
		4	v	PL 3/16 X 0'-1 5/8"		A36	1
		2	f	PL 3/8 X 0'-2" X 0'-11"		A36	5
		12	r	GRATING 3/16 X 1 X 0'-9" X 2'-4"	19-4-W	CS	156
		48	S	FB 1/4 X 2 X 0'-4"		A36	28
2	16C			KNEE BRACE			
		2	m	L3 X 3 X 1/4" X 4'-11 1/2"		A36	49
		2	n	L3 X 3 X 1/4" X 6'-4 1/4"		A36	62
		4	p	PL 3/8 X 0'-11" X 0'-11"	TEMP	A36	51
4	16D			PL 3/8 X 0'-6" X 1'-2"		A573	35
4	16F			FB 1/4 X 3 X 0'-6"		A36	10

PLATFORM/LANDING POST

18A ELEV. 50'-6"

18A

19A

16A

TYP 16F

16C

typ.

16B

16C

16D TYP

4'-5 3/4" TYP  
OUTSIDE  
STRINGER  
(2) PLCS.

4'-4 1/4" TYP  
INSIDE  
STRINGER  
(2) PLCS.

7'-0" MAX. TYP

ELEV. 32'-6"

14'-10 5/16" STRAP @ SHELL REF.

SHOP NOTE: DIMENTIONS  
ARE IN FLAT PATTERN

16A SPRIL STAIR

16B SPRIL STAIR

REV	ZN	DESCRIPTION	U	DATE	BY	CHK
REVISIONS						

HOT DIP GALV.  
AFTER FAB

"STAIR  
TREAD"  
C.M.

WORK THIS DWG. W/SHEET 17

**MORSE CONSTRUCTION GROUP, INC.**  
5500 SOUTH FIRST AVE. EVERETT, WA. 98203 (206) 258-2731 FAX (206) 259-6355

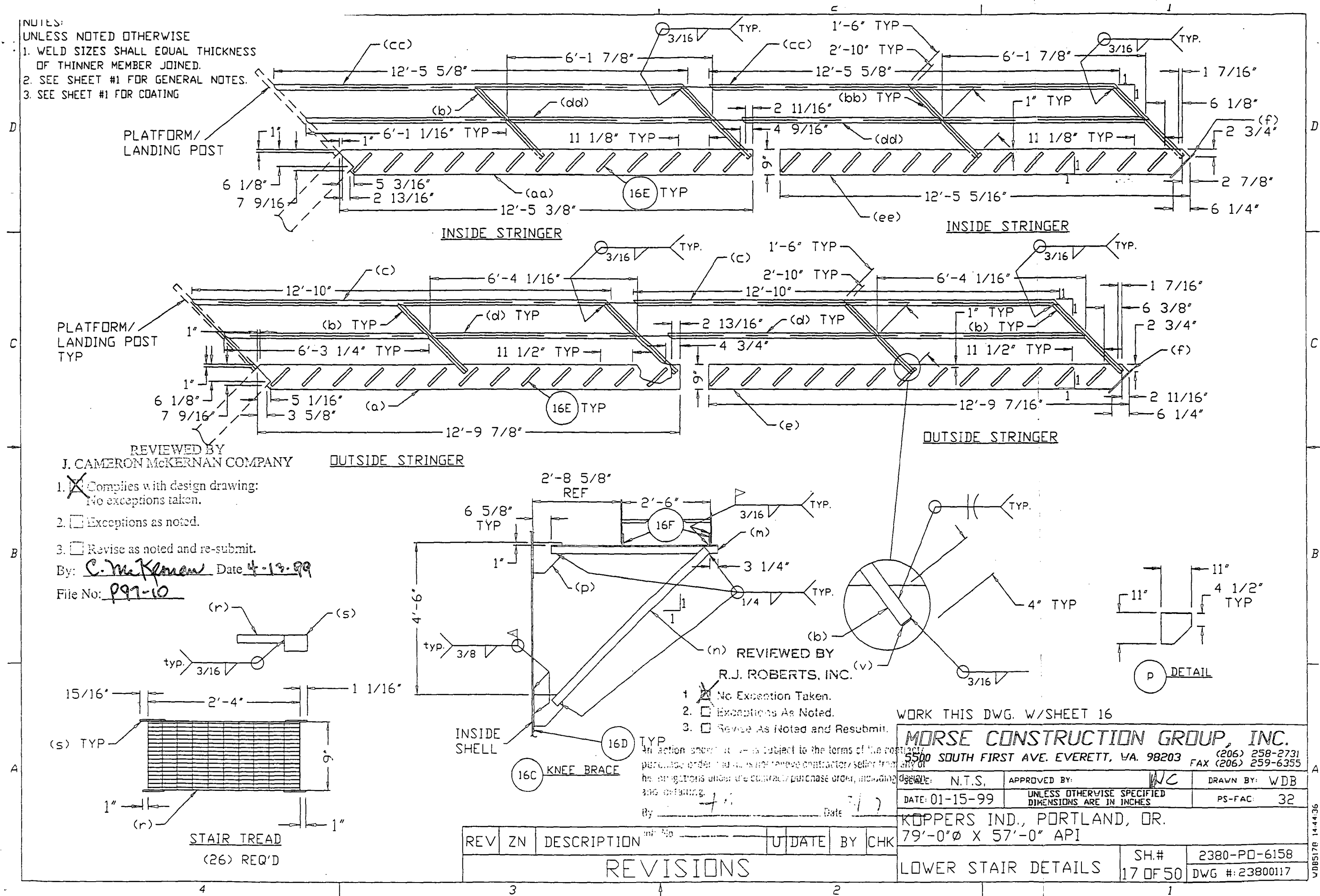
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DATE: 01-18-99 UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES PS-FAC: 45

KOPPERS IND., PORTLAND, OR.  
79'-0"Ø X 57'-0" API

SH.# 2380-PO-6158  
16 OF 50 DWG #: 23800116

Koppers001145

- NOTES:  
UNLESS NOTED OTHERWISE
1. WELD SIZES SHALL EQUAL THICKNESS OF THINNER MEMBER JOINED.
  2. SEE SHEET #1 FOR GENERAL NOTES.
  3. SEE SHEET #1 FOR COATING



REVIEWED BY  
J. CAMERON McKERNAN COMPANY

1. ☒ Complies with design drawing:  
No exceptions taken.
2. ☐ Exceptions as noted.
3. ☐ Revise as noted and re-submit.

By: C. McKernan Date: 4-13-99  
File No: P99-10

REVIEWED BY  
R.J. ROBERTS, INC.

1. ☒ No Exception Taken.
2. ☐ Exceptions As Noted.
3. ☐ Revise As Noted and Resubmit.

WORK THIS DWG. W/SHEET 16

**MORSE CONSTRUCTION GROUP, INC.**  
5500 SOUTH FIRST AVE. EVERETT, WA. 98203  
(206) 258-2731  
FAX (206) 259-6355

DATE: 01-15-99  
UNLESS OTHERWISE SPECIFIED  
DIMENSIONS ARE IN INCHES  
APPROVED BY: WC  
DRAWN BY: WDB  
PS-FAC: 32

KOPPERS IND., PORTLAND, OR.  
79'-0"Ø X 57'-0" API

REV	ZN	DESCRIPTION	DATE	BY	CHK
3					
2					
1					

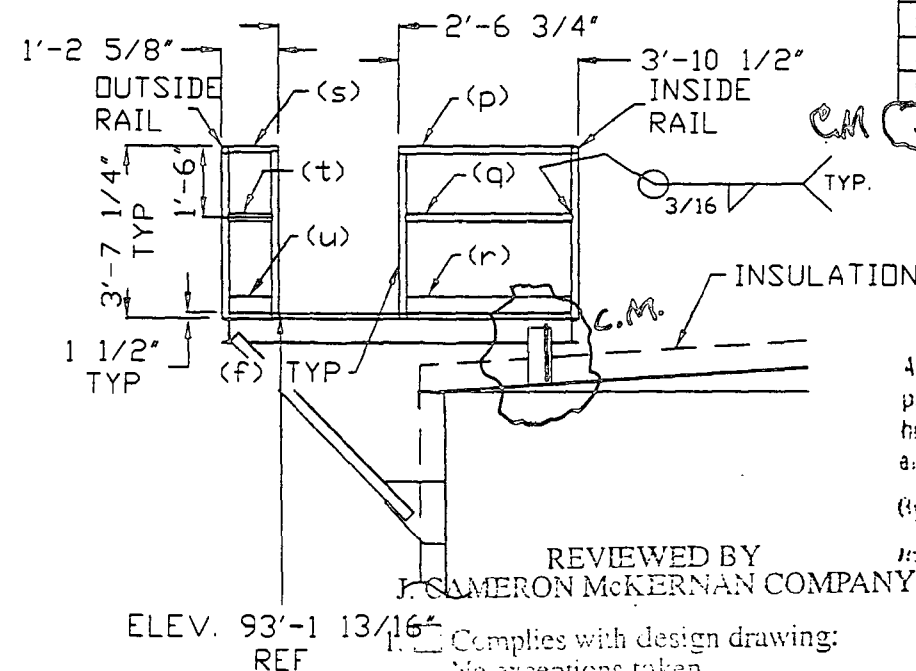
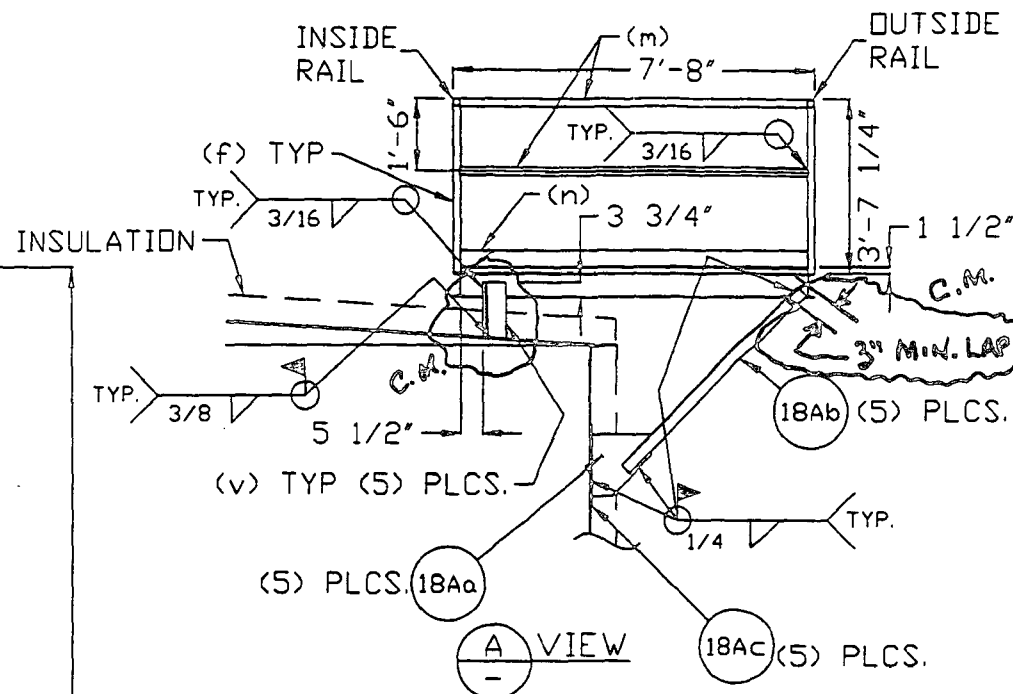
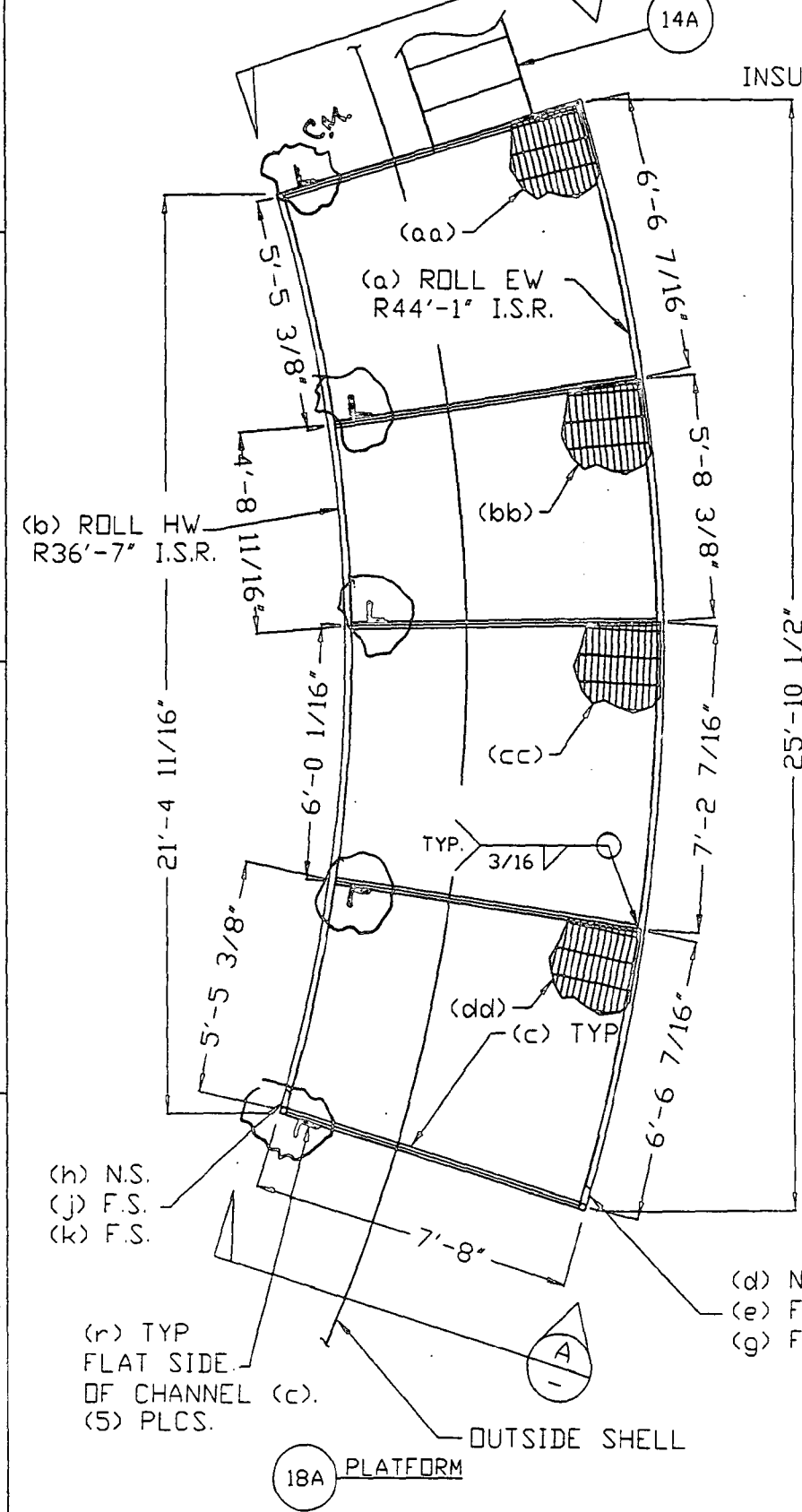
REVISIONS

LOWER STAIR DETAILS  
SH.# 2380-PD-6158  
17 OF 50  
DWG #: 23800117

Koppers001146



- NOTES:  
UNLESS NOTED OTHERWISE  
1. WELD SIZES SHALL EQUAL THICKNESS  
OF THINNER MEMBER JOINED.  
2. SEE SHEET #1 FOR GENERAL NOTES.  
3. SEE SHEET #1 FOR COATING



REVIEWED BY  
J. CAMERON McKERNAN COMPANY

ELEV. 93'-1 13/16" REF  
1. ☒ Complies with design drawing:  
No exceptions taken.  
2. ☒ Exceptions as noted.

3. ☐ Revise as noted and re-submit.

By: C. McKernan Date 4-13-99

File No: P97-10

REV	ZN	DESCRIPTION	U	DATE	BY	CHK
1						
2						
3						

REVISIONS

## BILL OF MATERIALS

# TO SHIP	SHIP MARK	# OF PCS.	ASSY MARK	DESCRIPTION	REMARKS	MATL'S	WT. (Lb.)
1	18A			PLATFORM	GALV		
		1	a	C6 X 8.2# X 26'-2 1/2'	ROLL/EW	A36	215
		1	b	C6 X 8.2# X 21'-9 1/8'	ROLL/HW	A36	178
		5	c	C6 X 8.2# X 7'-4 1/8'		A36	300
		1	d	PIPE 1 1/2" STD X 26'-2 1/2'	CAP2E	A120	71
		4	e	PIPE 1 1/2" STD X 6'-5'	C2E	A120	69
		11	f	PIPE 1 1/2" STD X 3'-5 3/4'	C2E	A120	47
		1	g	FB 1/4 X 4 X 26'-0 5/8'		A36	89
		1	h	PIPE 1 1/2" STD X 19'-1 1/4'	CAP2E	A120	52
		3	j	PIPE 1 1/2" STD X 6'-2 11/16'	C2E	A120	51
		1	k	FB 1/4 X 4 X 18'-11 3/8'		A36	64
		2	m	PIPE 1 1/2" STD X 7'-5'	C2E	A120	40
		1	n	FB 1/4 X 4 X 7'-6 1/8'		A36	26
		1	p	PIPE 1 1/2" STD X 3'-9 1/8'	CAP1E/C1E	A120	10
		1	q	PIPE 1 1/2" STD X 3'-7 5/8'	C2E	A120	10
		1	r	FB 1/4 X 4 X 3'-8 3/4'		A36	12
		1	s	PIPE 1 1/2" STD X 1'-1 1/8'	CAP1E/C1E	A120	3
		1	t	PIPE 1 1/2" STD X 0'-11 5/8'	C2E	A120	3
		1	u	FB 1/4 X 4 X 1'-0 3/4'		A36	3
		5	v	FB 3/8 X 4 X 1'-2 1/2' L6x6x5/16	TEMP	A36	40
		1	aa	GRATE 6'-7 3/8' X 7'-8 3/4'	TEMP	CS	332
		1	bb	GRATE 5'-8 3/8' X 7'-8 3/8'	TEMP	CS	276
		1	cc	GRATE 7'-2 7/16' X 7'-8 15/16'	TEMP	CS	332
		1	dd	GRATE 6'-7 3/8' X 7'-8 3/4'	TEMP	CS	332
5	18Aa			PL 3/8 X 1'-3 3/4' X 1'-3 3/4'	TEMP	A36	104
5	18Ab			L 3 X 3 X 1/4 X 5'-3 1/2'		A36	129
5	18Ac			PL 3/8 X 0'-6" X 1'-0"	TEMP	A36	57

REVIEWED BY  
R.J. ROBERTS, INC.

- ☒ No Exception Taken.
- ☐ Exceptions As Noted.
- ☐ Revise As Noted and Resubmit.

An action shown above is subject to the terms of the contract/  
purchase order and does not relieve contractor/supplier from any of  
his obligations under the contract/purchase order, including design  
and testing.

By: J.A. / Date 7-17-99

HANDRAIL PLAN  
TOP RAILING ONLY

WORK THIS DWG. W/SHEET 19

MORSE CONSTRUCTION GROUP, INC.  
5500 SOUTH FIRST AVE. EVERETT, WA. 98203 (206) 258-2731  
FAX (206) 259-6355

SCALE: N.T.S. APPROVED BY: NC DRAWN BY: WDB  
DATE: 01-14-99 UNLESS OTHERWISE SPECIFIED  
DIMENSIONS ARE IN INCHES PS-FAC: 50

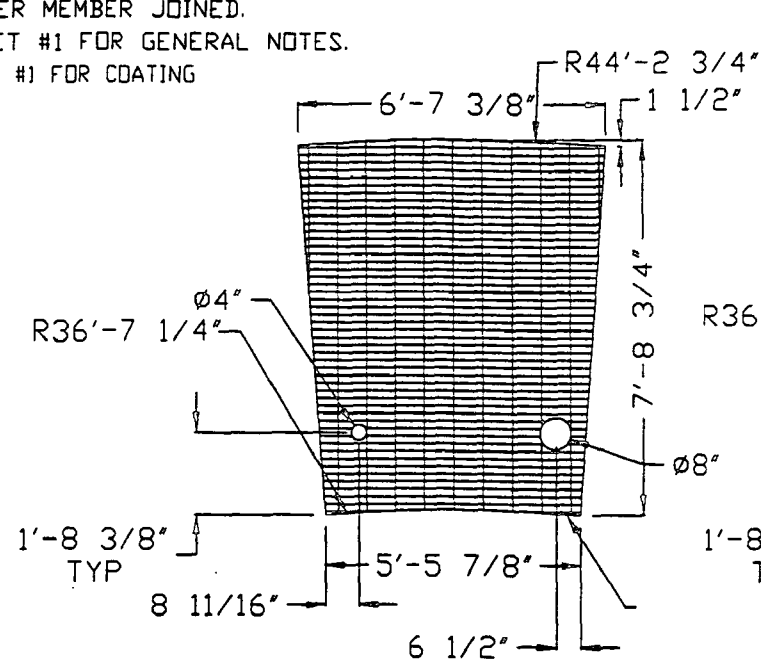
KOPPERS IND., PORTLAND, OR.  
79'-0" X 57'-0" API

LANDING PLATFORM SH.# 2380-PD-6158  
18 OF 50 DWG #: 23800118

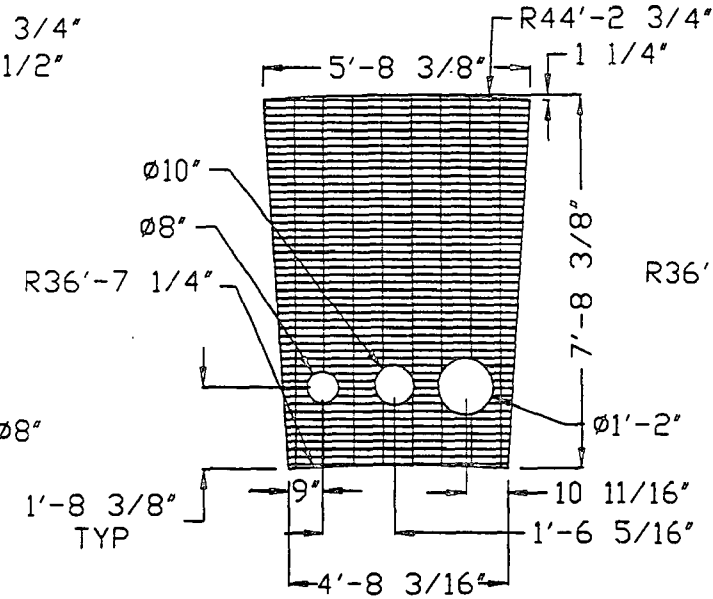
Koppers001147



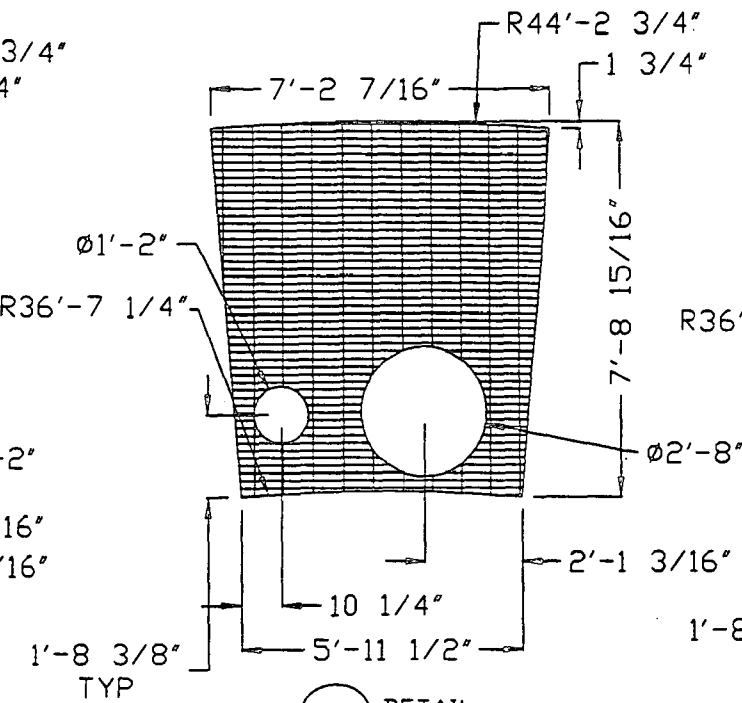
- NOTES:  
UNLESS NOTED OTHERWISE
1. WELD SIZES SHALL EQUAL THICKNESS OF THINNER MEMBER JOINED.
  2. SEE SHEET #1 FOR GENERAL NOTES.
  3. SEE SHEET #1 FOR COATING



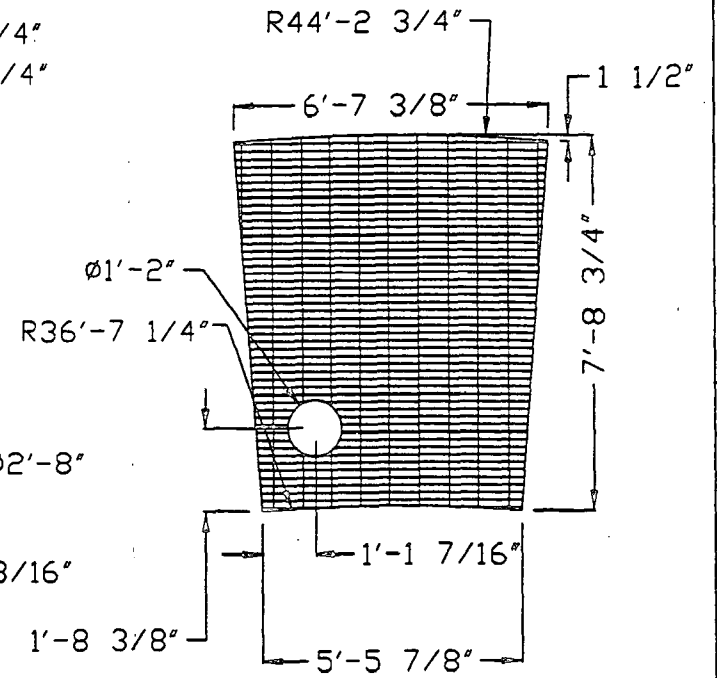
aa DETAIL



bb DETAIL



cc DETAIL



dd DETAIL

SHOP NOTE:  
BAND ALL EDGES  
REVIEWED BY

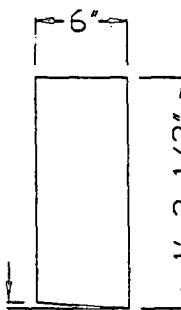
R.J. ROBERTS, INC.

1. ☒ No Exception Taken.
2. ☐ Exceptions As Noted.
3. ☐ Revise As Noted and Resubmit.

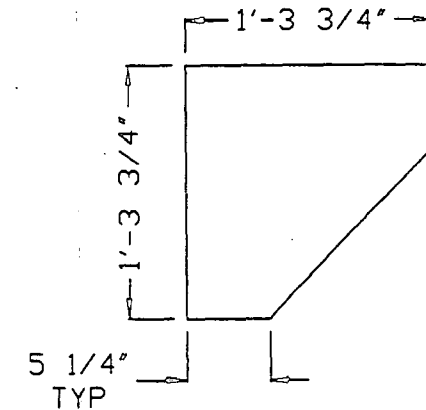
An action shown above is subject to the terms of the contract/purchase order and does not relieve contractor/seller from any of his obligations under the contract/purchase order, including design and detailing.

By: Ja Date: 3/15/97

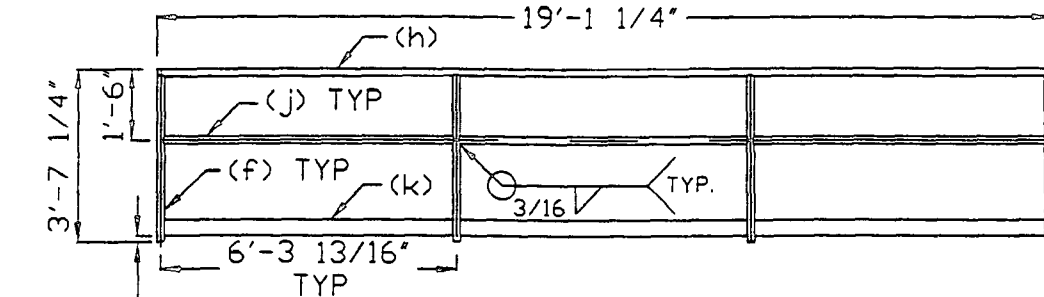
Job No. 378



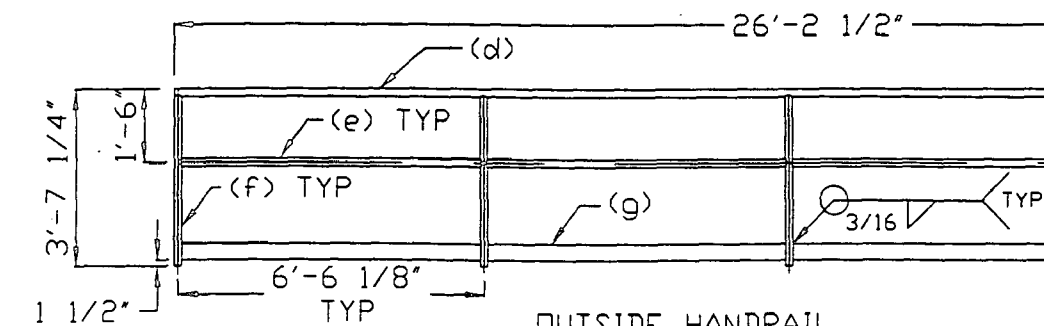
v DETAIL



13Aa DETAIL



INSIDE HANDRAIL  
ROLL R36'-7" I.S.R.



OUTSIDE HANDRAIL  
ROLL R44'-1" I.S.R.

REVIEWED BY  
J. CAMERON MCKERNAN COMPANY

Design drawing:  
No exceptions taken.

3. ☐ Revise as noted and re-submit.

By: C. McKernan Date: 4-13-99

File No: P97-10

WORK THIS DWG. W/SHEET 18

**MORSE CONSTRUCTION GROUP, INC.**  
5500 SOUTH FIRST AVE. EVERETT, WA. 98203  
(206) 258-2731 FAX (206) 259-6355

SCALE: N.T.S. APPROVED BY: NC DRAWN BY: WDB  
DATE: 01-14-99 UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES PS-FAC: 50

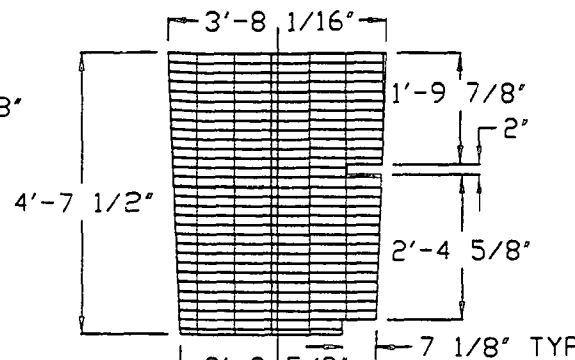
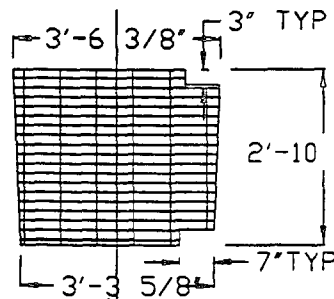
KOPPERS IND., PORTLAND, OR.  
79'-0"Ø X 57'-0" API

PLATFORM DETAILS SH.# 2380-PD-6158  
19 OF 50 DWG #: 23800119

REV	ZN	DESCRIPTION	U	DATE	BY	CHK
REVISIONS						

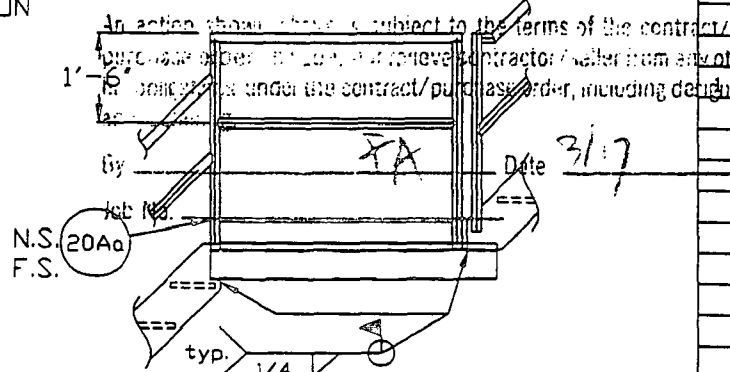
- NOTES:  
UNLESS NOTED OTHERWISE  
1. WELD SIZES SHALL EQUAL THICKNESS  
OF THINNER MEMBER JOINED.  
2. SEE SHEET #1 FOR GENERAL NOTES.  
3. SEE SHEET #1 FOR COATING

HOT DIP GALV.  
AFTER FAB

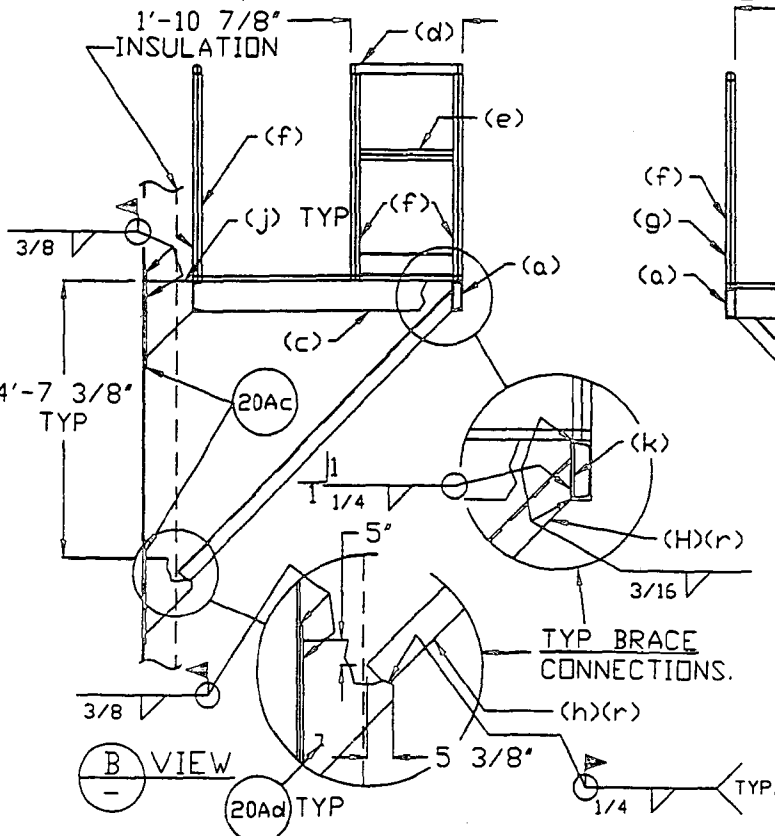


REVIEWED BY  
R. ROBERTS, INC.

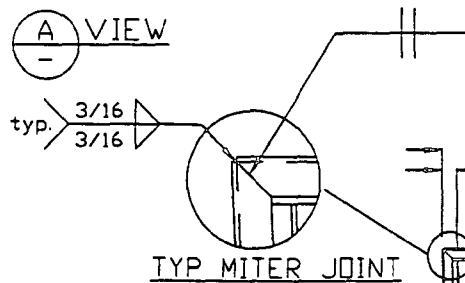
1. ☒ No Exception Taken.  
2. ☐ Exceptions As Noted.  
3. ☐ Revise As Noted and Resubmit.



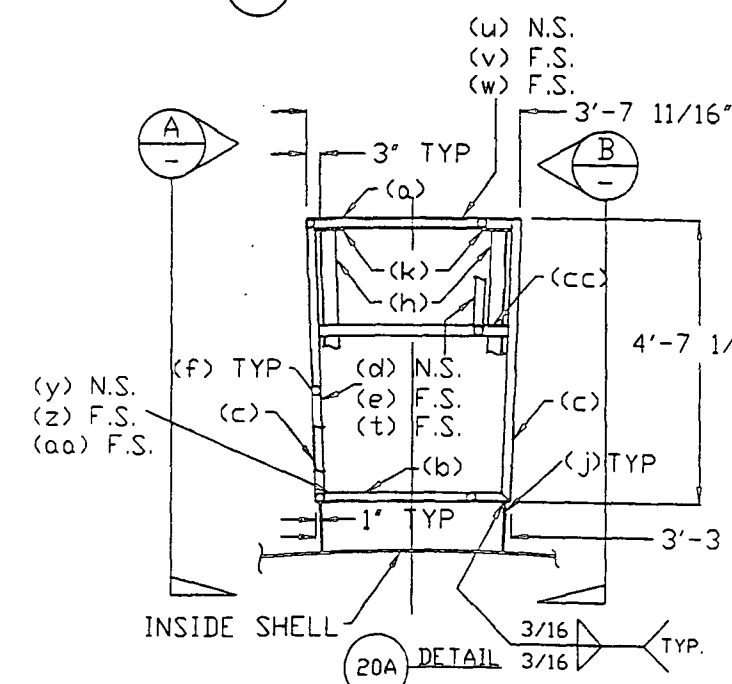
TYP STAIR CONNECTION



A VIEW



TYP MITER JOINT



REVIEWED BY  
J. CAMERON MCKERNANE COMPANY

1. ☒ Complies with design drawing  
No exceptions taken.

2. ☐ Exceptions as noted.

3. ☐ Revise as noted and re-submit.

By: C. McKernan Date 4-13-99

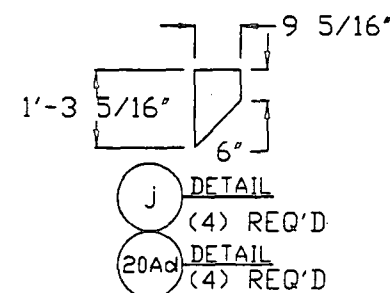
File No: P97-10

REV	ZN	DESCRIPTION	U	DATE	BY	CHK
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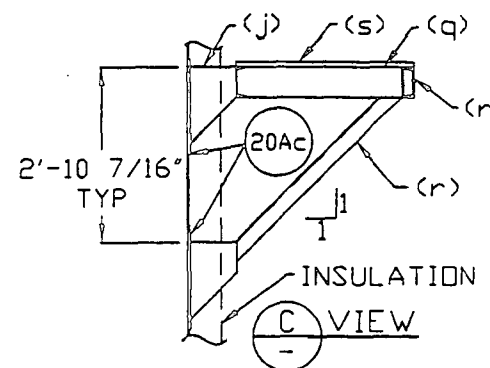
REVISIONS

## BILL OF MATERIALS

# TO SHIP	SHIP MARK	# OF PCS.	ASSY MARK	DESCRIPTION	REMARKS	MAT'L'S	WT. (LB.)
1	20A			LOWER LANDING			
		1	a	C6 X 8.2 X 3'-7 5/16"	M2E	A36	30
		1	b	C6 X 8.2 X 3'-3 1/4"	M2E	A36	27
		2	c	C6 X 8.2 X 4'-7 3/16"	M2E	A36	75
		2	d	PIPE 1 1/2" X 1'-10 7/8"	CAP2E	A120	10
		2	e	PIPE 1 1/2" X 1'-7 7/8"	C2E	A120	10
		6	f	PIPE 1 1/2" X 3'-5 1/2"	C1E	A120	55
		2	h	L3 X 3 X 1/4" X 6'-7 3/8"	M1E	A36	65
		2	j	PL 3/8 X 0'-9 5/16" X 1'-3 5/16"	TEMP	A36	29
		2	k	PL 3/8 X 0'-5 5/8" X 0'-6"		A36	7
		1	m	GRATE	TEMP	CS	
		2	t	FB 1/4 X 0'-4" X 1'-3 5/16"	TEMP	A36	5
		1	u	PIPE 1 1/2" X 3'-1"	CAP2E	A120	8
		1	v	PIPE 1 1/2" X 2'-10 15/16"	C2E	A120	7
		1	w	FB 1/4 X 0'-4" X 1'-3 5/16"	TEMP	A36	6
		1	y	PIPE 1 1/2" X 2'-6 3/4"	CAP2E	A120	6
		1	z	PIPE 1 1/2" X 2'-3 3/4"	C1E	A120	7
		1	aa	FB 1/4 X 0'-4" X 2'-4 3/4"	TEMP	A36	8
		1	bb	L2 X 2 X 1/4" X 3'-8"	TRIM	A36	11
				UPPER LANDING			
		1	n	C6 X 8.2 X 3'-6"	M2E	A36	29
		1	p	C6 X 8.2 X 3'-3 1/4"	M2E	A36	27
		2	q	C6 X 8.2 X 2'-10 1/4"	M2E	A36	48
		2	r	L3 X 3 X 1/4" X 6'-7 3/8"	M1E	A36	65
		2	j	PL 3/8 X 0'-9 5/16" X 1'-3 5/16"	TEMP	A36	29
		2	k	PL 3/8 X 0'-6" X 0'-6"		A36	7
		1	s	GRATE	TEMP	CS	
		1	y	PIPE 1 1/2" X 2'-6 3/4"	CAP2E	A120	6
		1	z	PIPE 1 1/2" X 2'-3 3/4"	C2E	A120	7
		1	aa	FB 1/4 X 0'-4" X 2'-4 3/4"	TEMP	A36	8
		1	cc	PIPE 1 1/2" X 2'-11 5/16"	CAP2E	A120	6
		1	dd	PIPE 1 1/2" X 2'-8 5/16"	C2E	A120	7
		1	ee	FB 1/4 X 0'-4" X 2'-4 3/4"	TEMP	A36	8
8	20Ac			PL 3/8 X 0'-6" X 1'-6"	CAP1E	A120	80
4	20Ad			PL 3/8 X 0'-9 5/16" X 1'-3 5/16"	TEMP	A36	57



DETAIL  
(4) REQ'D  
DETAIL  
(4) REQ'D



## MORSE CONSTRUCTION GROUP, INC.

5500 SOUTH FIRST AVE. EVERETT, WA. 98203 (206) 258-2731 FAX (206) 259-6355

SCALE: N.T.S. APPROVED BY: MC DRAWN BY: WDB

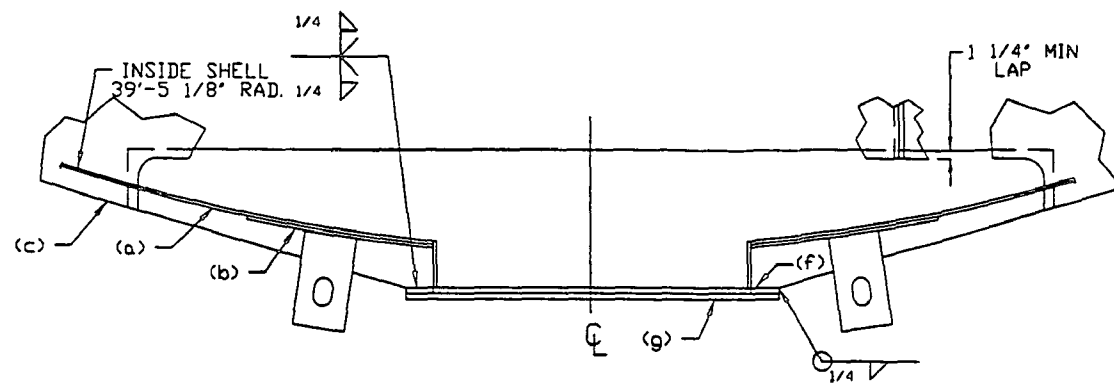
DATE: 01-18-99 UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES PS-FAC: 36

KOPPERS IND., PORTLAND, OR.  
79'-0" X 57'-0" API

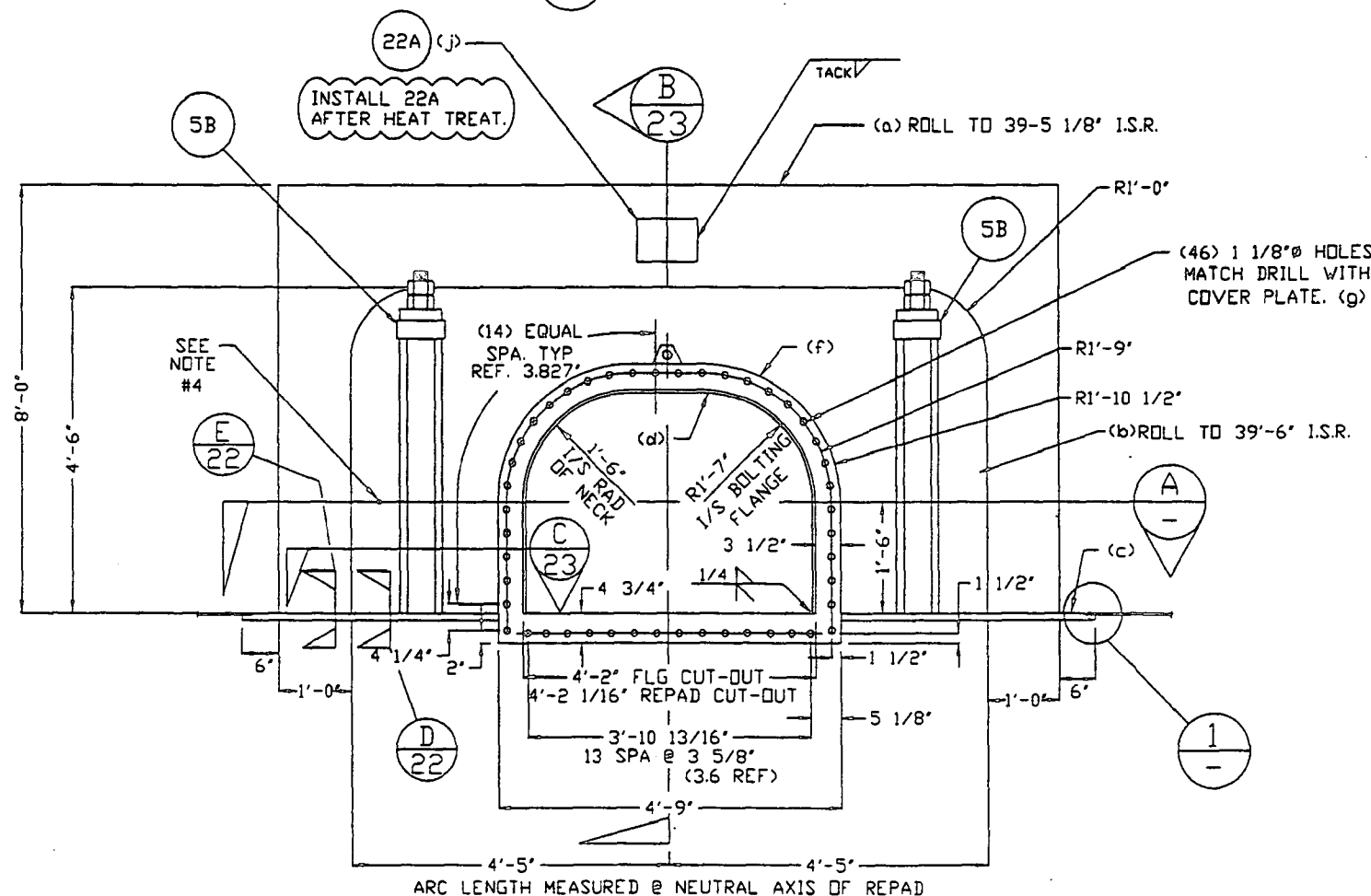
STAIR LANDINGS SH.# 2380-PO-6158  
20DF50 DWG #: 23800120

Koppers001149

- NOTES:  
UNLESS NOTED OTHERWISE
1. WELD SIZES SHALL EQUAL THICKNESS OF THINNER MEMBER JOINED.
  2. SEE SHEET #1 FOR GENERAL NOTES.
  3. SEE SHEET #1 FOR COATING
  4. INSTALL 1/4" NPT & DEBURR BACKSIDE.
  5. STRESS RELIEVE CLEAN-OUT ASSY. FOR 1 HOUR @ 1100° - 1200° PER INCH OF THICKNESS.
  6. MACHINE FLANGE AFTER STRESS RELIEF. (FINISH SPEC'S - 125 RMS)



A SECTION



ARC LENGTH MEASURED @ NEUTRAL AXIS OF REPAD

FOUNDATION NOTE:  
PROVIDE NOTCH IN RINGWALL  
PER API 650 3.7.7.11

21 36" X 48" FLUSH MANWAY  
NOTE: COVER PLATE OMITTED  
FROM THIS VIEW FOR CLARITY

# BILL OF MATERIALS

# TO SHIP	SHIP MARK	# OF PCS.	ASSY MARK	DESCRIPTION	REMARKS	MATL'S	WT. (Lb)
1	21A			36" X 48" FLUSH MANWAY			
		1	a	PL 7/8 X 7'-11 1/2" X 10'-10"	ROLL/TEMP	A36*	3081
		1	b	PL 7/8 X 4'-6" X 8'-10"	ROLL/TEMP	A36*	1420
		1	c	PL 1 3/8 X 2'-4" X 11'-10"	TEMP	A36*	1551
		1	d	PL 1 X 0'-8" X 8'-10 1/8"	ROLL	A36*	240
		1	f	PL 1 1/8 X 3'-9 1/4" X 4'-9" MACH.	TEMP	A36	220
		1	g	PL 7/8 X 3'-9 1/4" X 4'-9"	TEMP	A36	583
		1	h	PL 3/8 X 0'-3" X 0'-5"	TEMP	A36	2
		1	j	PL 10 GA. X 0'-7" X 2'-4"	FORM	CS	7
46	21Aa			BOLT 1" X 3" W/NUT & (2) FW	GALV	A307	20
1	21Ab			GASKET 1/8 X 3'-9 1/4" X 4'-9"	TEMP/F.FACE	C4401	1

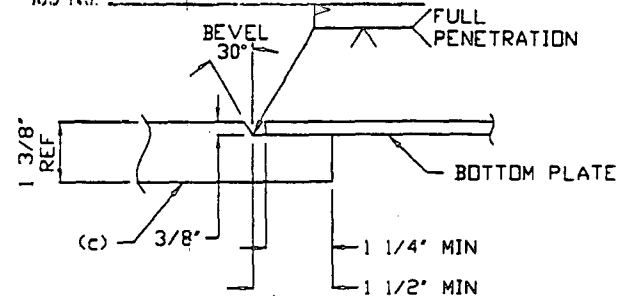
A36\* = A36 MOD.  
REVIEWED BY  
R.J. ROBERTS, INC.

- 1 ☒ No Exception Taken.
- 2 ☐ Exceptions As Noted.
- 3 ☐ Revise As Noted and Resubmit.

An action shown above is subject to the terms of the contract/  
purchase order and does not relieve contractor/seller from any of  
his obligations under the contract/purchase order, including design  
and detailing.

By FAW Date 2/7/99

Iss. No. \_\_\_\_\_



1 DETAIL

WORK THIS DWG W/SHEET 22 & 23

**MORSE CONSTRUCTION GROUP, INC.**  
5500 SOUTH FIRST AVE. EVERETT, WA. 98203 (206) 258-2731  
FAX (206) 259-6355

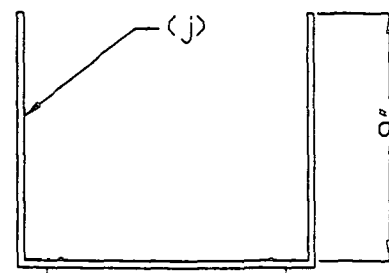
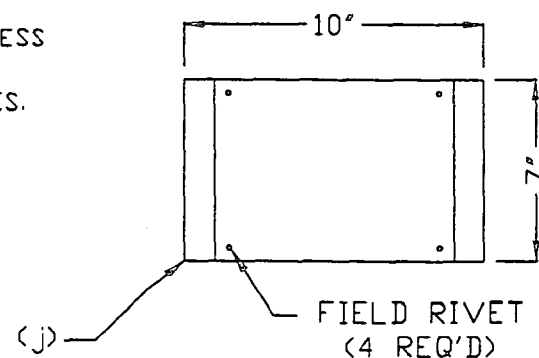
SCALE: N.T.S. APPROVED BY: NC DRAWN BY: WDB  
DATE: 01-07-99 UNLESS OTHERWISE SPECIFIED  
DIMENSIONS ARE IN INCHES PS-FAC: 20

KOPPERS IND., PORTLAND, OR.  
79'-0" X 57'-0" API

48" X 36" FLUSH MANWAY SH.# 2380-PD-6158  
21 OF 50 DWG #: 23800121

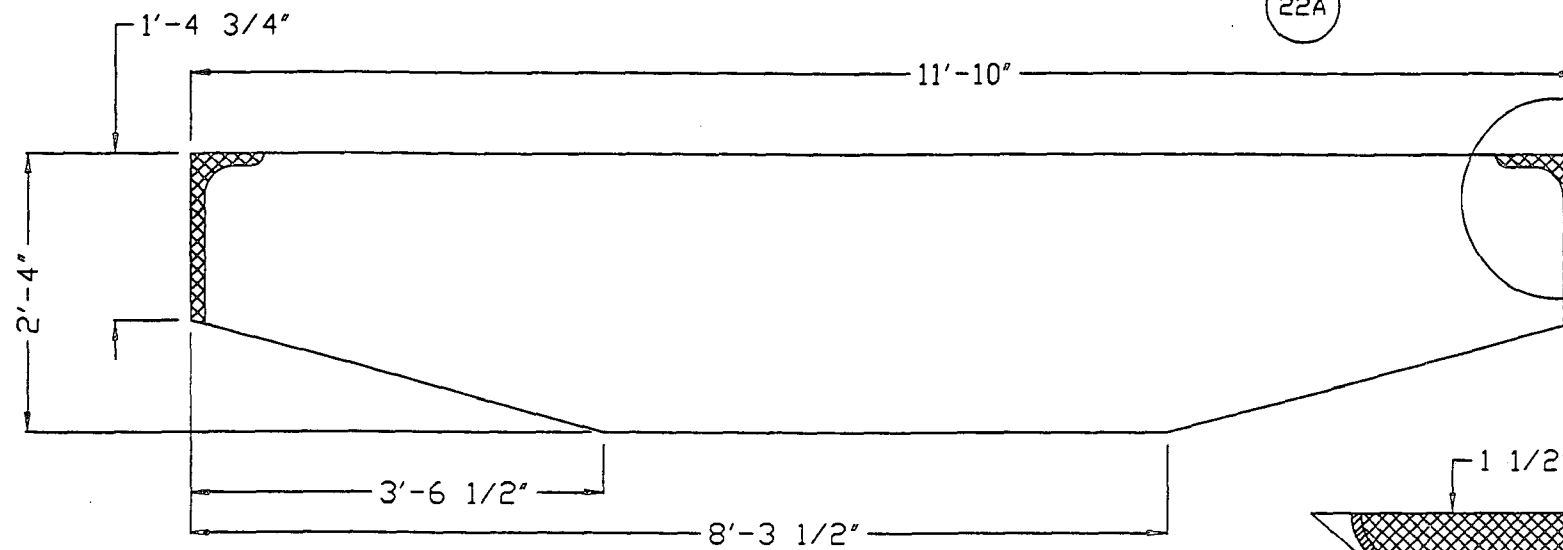
REV	ZN	DESCRIPTION	U	DATE	BY	CHK
REVISIONS						

NOTES:  
UNLESS NOTED OTHERWISE  
1. WELD SIZES SHALL EQUAL THICKNESS  
OF THINNER MEMBER JOINED.  
2. SEE SHEET #1 FOR GENERAL NOTES.  
3. SEE SHEET #1 FOR COATING

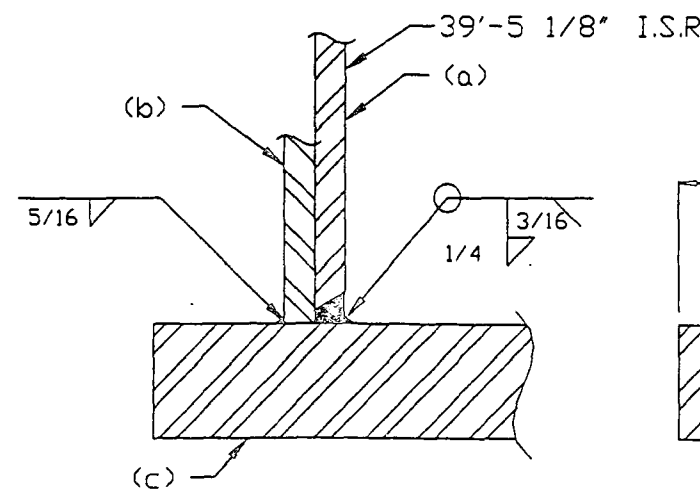


22A

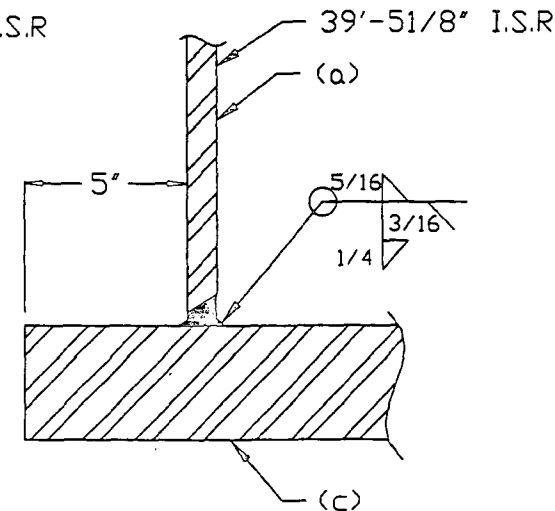
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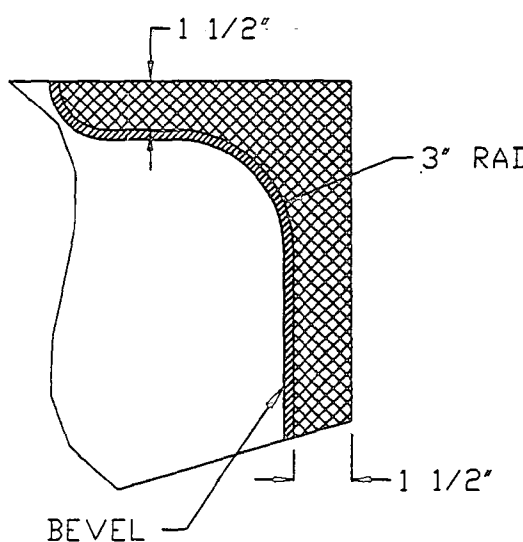
(c) DETAIL



(D) SECTION  
21



(E) SECTION  
21



(2) DETAIL

NOTE:  
SHADED AREAS ARE  
TO BE MACHINED

# BILL OF MATERIALS

# TO SHIP	SHIP MARK	# OF PCS.	ASSY MARK	DESCRIPTION	REVIEWED BY	REMARKS	MATL'S	WT. (Lb.)
1	22A			NAMEPLATE	R.J. ROBERTS, INC.		SS	2

- ☒ No Exception Taken.
- ☐ Exceptions As Noted.
- ☐ Revise As Noted and Resubmit.

An action shown above is subject to the terms of the contract/  
purchase order and does not relieve contractor/seller from any of  
his obligations under the contract/purchase order, including design  
and detailing.

FR 3117

Job No. API 650 ☒ AWWA D100 ☐ OTHER ☐

EDITION 9TH MORSE SERIAL NUMBER 2380-PO YEAR BUILT 99

SECTION OR APPENDIX 4 ADDENDA 4

DIAMETER 79'-0" HEIGHT 57'-0" CAPACITY 1.9 MG

LIQUID LEVEL 54'-10" PRESSURE ATMOS. OPERATING TEMP 500° MAX.

PARTIAL STRESS RELIEF YES SPECIFIC GRAVITY 1.2

SHELL COURSE 1 A36 MOD.  
2-5 A 573 GR 70  
6-7 A 36

**MORSE**  
**CONSTRUCTION GROUP, INC.**  
EVERETT, WA USA

22A NAMEPLATE

WORK THIS DWG W/SHEET 21 & 23

**MORSE CONSTRUCTION GROUP, INC.**  
5500 SOUTH FIRST AVE. EVERETT, WA. 98203 (206) 258-2731  
FAX (206) 259-6355

SCALE: N.T.S. APPROVED BY: NC DRAWN BY: WDB

DATE: 01-07-99 UNLESS OTHERWISE SPECIFIED  
DIMENSIONS ARE IN INCHES PS-FAC: 20

KOPPERS IND., PORTLAND, OR.  
79'-0"Ø X 57'-0" API

FLUSH MANWAY DETAILS SH.# 2380-PO-6158  
22DF50 DWG #: 23800122

REV	ZN	DESCRIPTION	U	DATE	BY	CHK
REVISIONS						

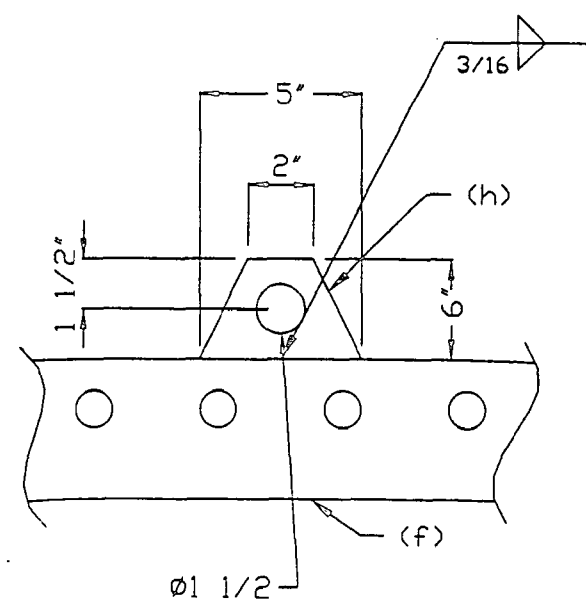
3. SEE SHEET #1 FOR COATING

R.J. ROBERTS, INC.

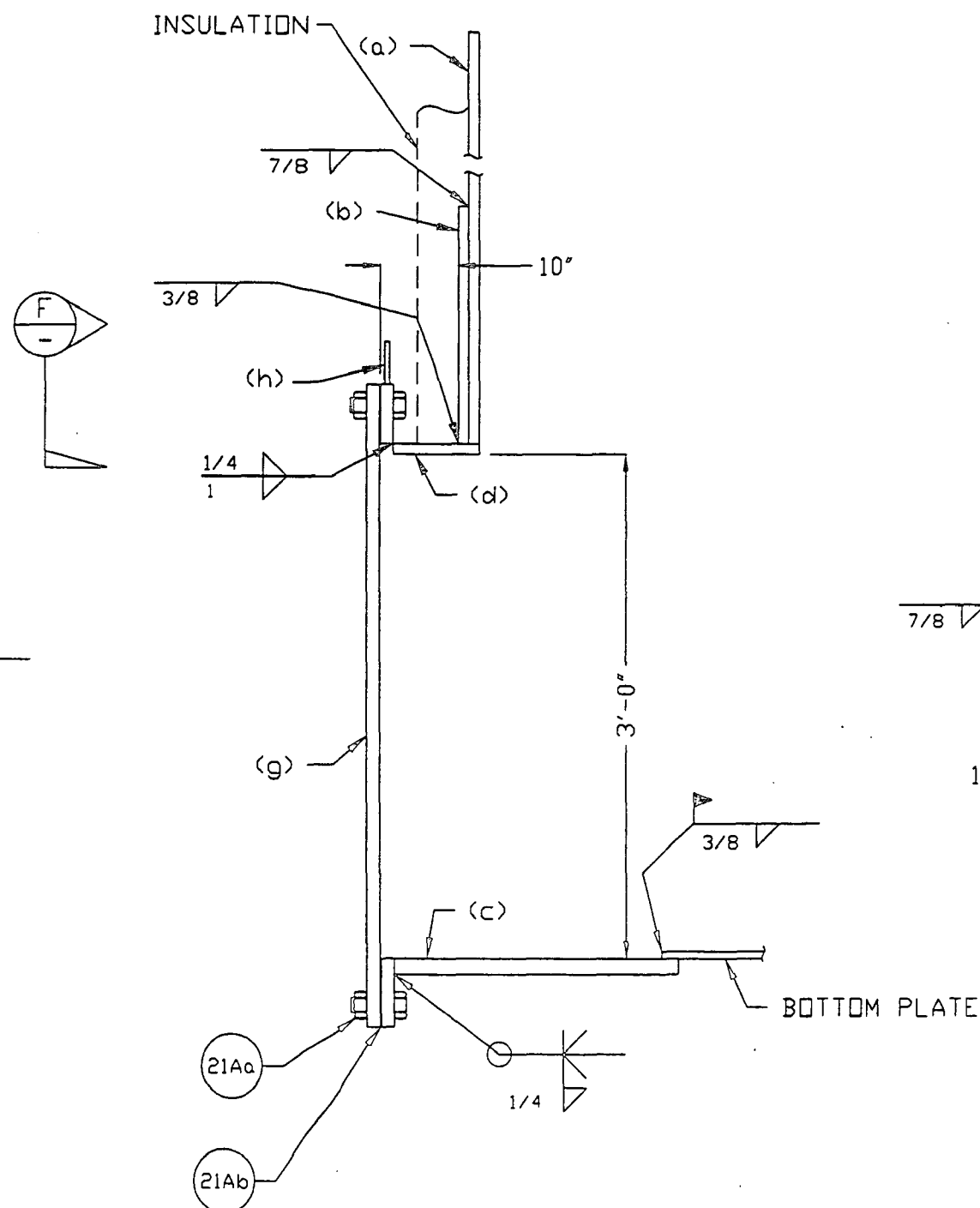
1. ☒ No Exception Taken.
2. ☐ Exceptions As Noted.
3. ☐ Revise As Noted and Resubmit.

All action shown above is subject to the terms of the contract/  
purchase order and does not relieve contractor/seller from any of  
his obligations under the contract/purchase order, including design  
and detailing.

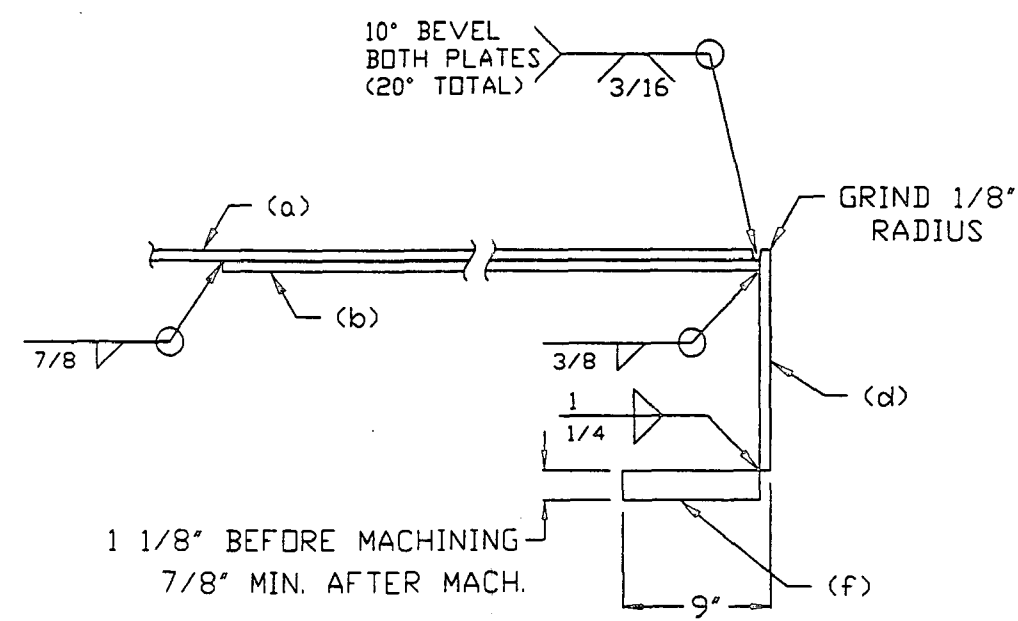
Cy *[Signature]* Date 4/1/77  
Lab No. \_\_\_\_\_



F VIEW



B SECTION



C SECTION  
21

WORK THIS DWG W/SHEET 21 & 22

MORSE CONSTRUCTION GROUP, INC.

5500 SOUTH FIRST AVE. EVERETT, WA. 98203 FAX (206) 259-6355

SCALE: N.T.S.	APPROVED BY: <i>NC</i>	DRAWN BY: WDB
---------------	------------------------	---------------

DATE: 01-07-99	UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES	PS-FAC: 12
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KOPPERS IND., PORTLAND, OR.
-----------------------------

79'-0"Ø X 57'-0" API

SH.#	2380-PD-6158
------	--------------

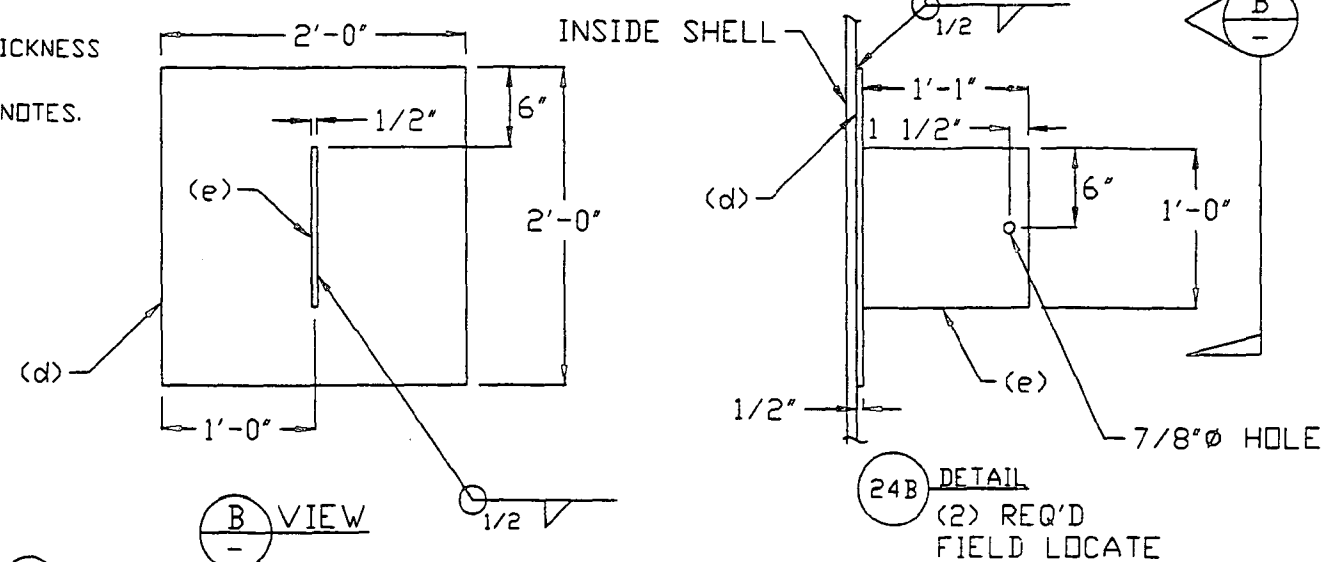
FLUSH MANWAY DETAILS 230F50 DWG #: 23800123

REV	ZN	DESCRIPTION	U	DATE	BY	CHK
REVISIONS						

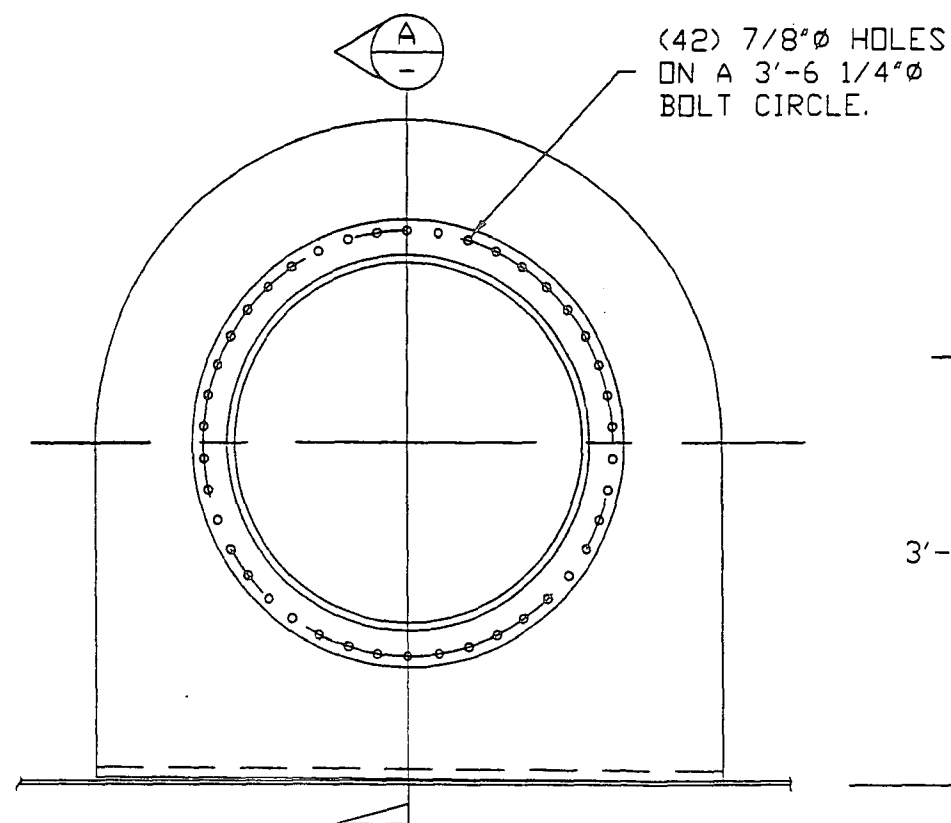
Koppers001152

UNLESS NOTED OTHERWISE .

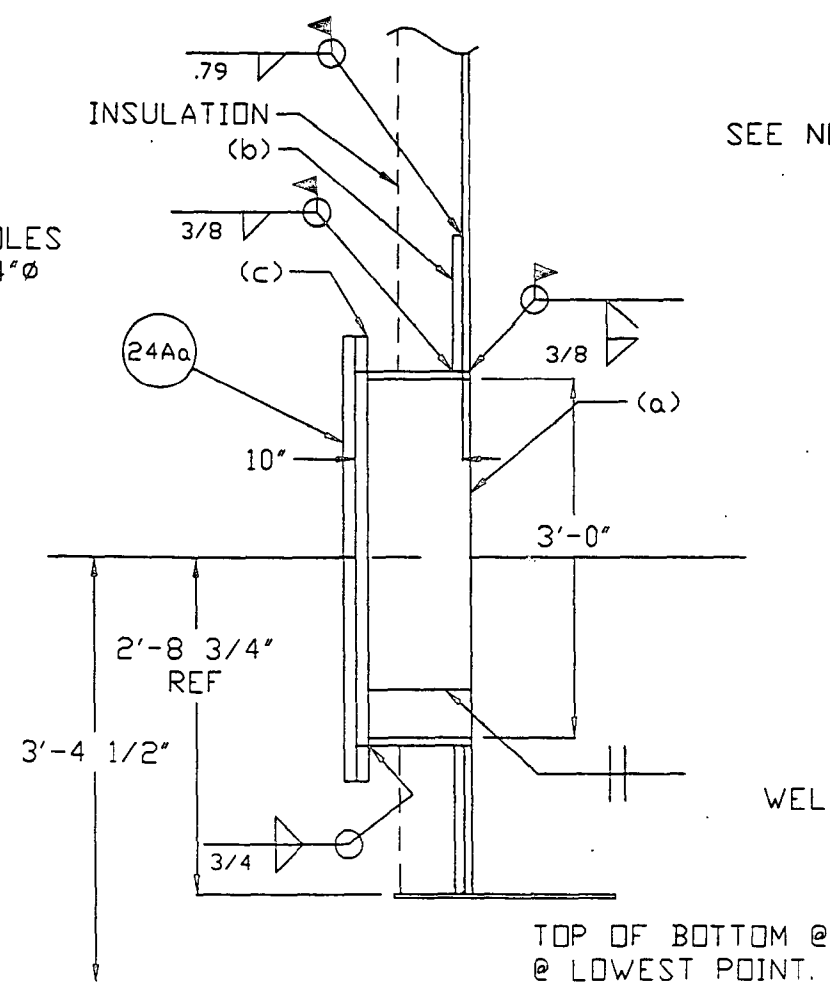
1. WELD SIZES SHALL EQUAL THICKNESS OF THINNER MEMBER JOINED.
2. SEE SHEET #1 FOR GENERAL NOTES.
3. SEE SHEET #1 FOR COATING
4. INSTALL 1/4"Ø NPT & DEBURR BACKSIDE FOR TESTING.



MACHINE FLANGE TO  
1 1/4" MIN.



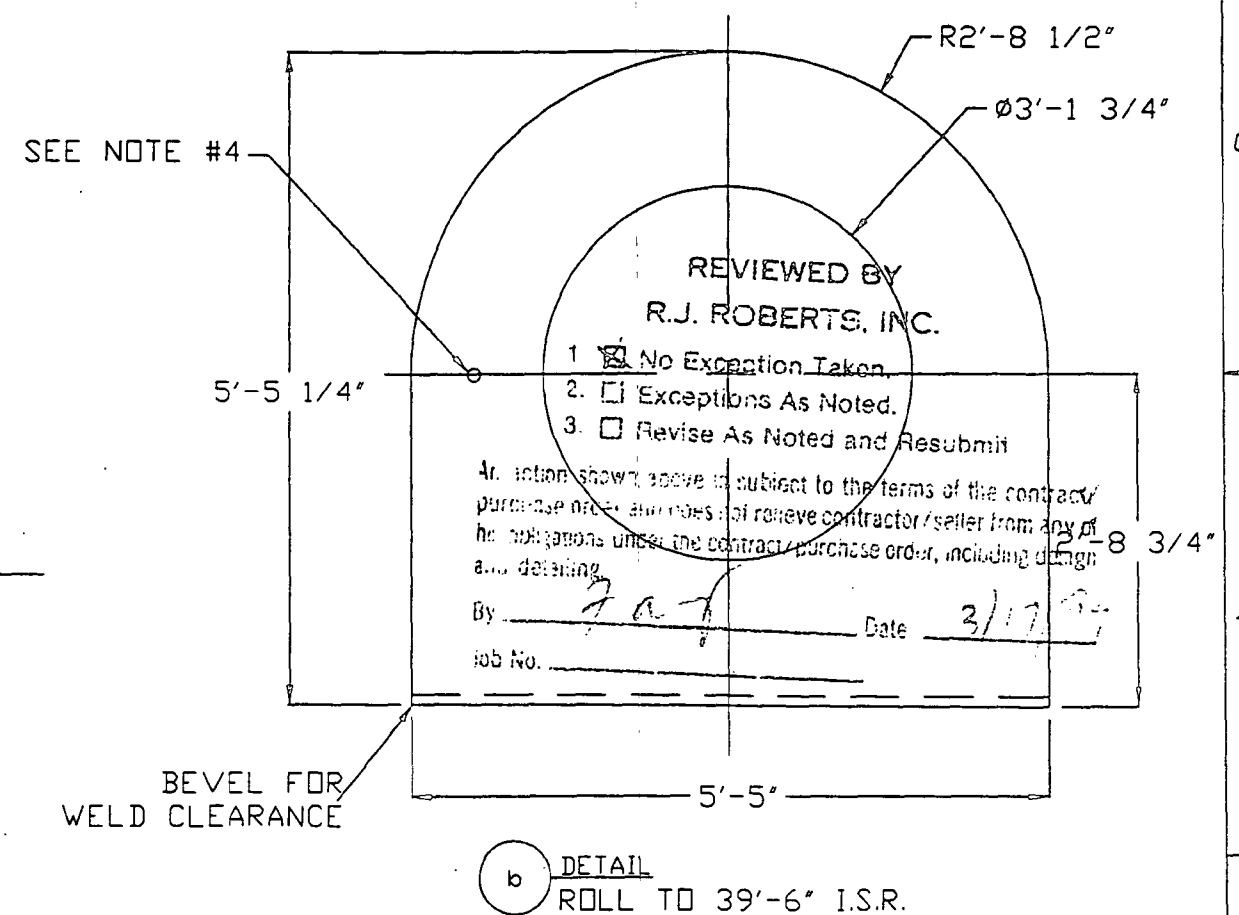
24A 36"Ø AGITATOR



## A SECTION

BILL OF MATERIALS						
# TO SHIP	SHIP MARK	# OF PCS.	ASSY MARK	DESCRIPTION	REMARKS	MATL'S WT. (Lb.)
1	24A			36"Ø AGITATOR		
		1	a	PL 0.79 X 1'-1" X 9'-7 9/16"	ROLL	A36* 285
		1	b	PL 1 X 5'-5" X 5'-5 1/4"	ROLL	A36* 918
		1	C	PL 1 3/8 X 3'-8 3/4"Ø X 3'-1 9/16" ID	W/HOLES	A36 198
1	24Aa			PL 1 1/4 X 3'-8 3/4"Ø	W/HOLES	A36 563
1	24Ab			GASKET 3'-8 3/4"Ø X 3'-1 9/16 ID	W/HOLES	A36
1	24Ac			BOLT 3/4"Ø X 3 1/2"	PLATED	A307 50
2	24B			SUPPORT BRKT.		
		2	d	PL 1/2 X 2'-0" X 2'-0"	ROLL*	A36 163
		2	e	PL 1/2 X 1'-0" X 1'-1"	W/HOLE	A36 44

A36\* = A36 MOD.  
ROLL\* 39'-6" I.S.R.



**MORSE CONSTRUCTION GROUP, INC.**  
5500 SOUTH FIRST AVE. EVERETT, WA. 98203 FAX (206) 258-2731  
(206) 259-6355

SCALE: N.T.S.	APPROVED BY: <i>W</i>	DRAWN BY: WDB
DATE: 01-21-99	UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES	PS-FAC: 20

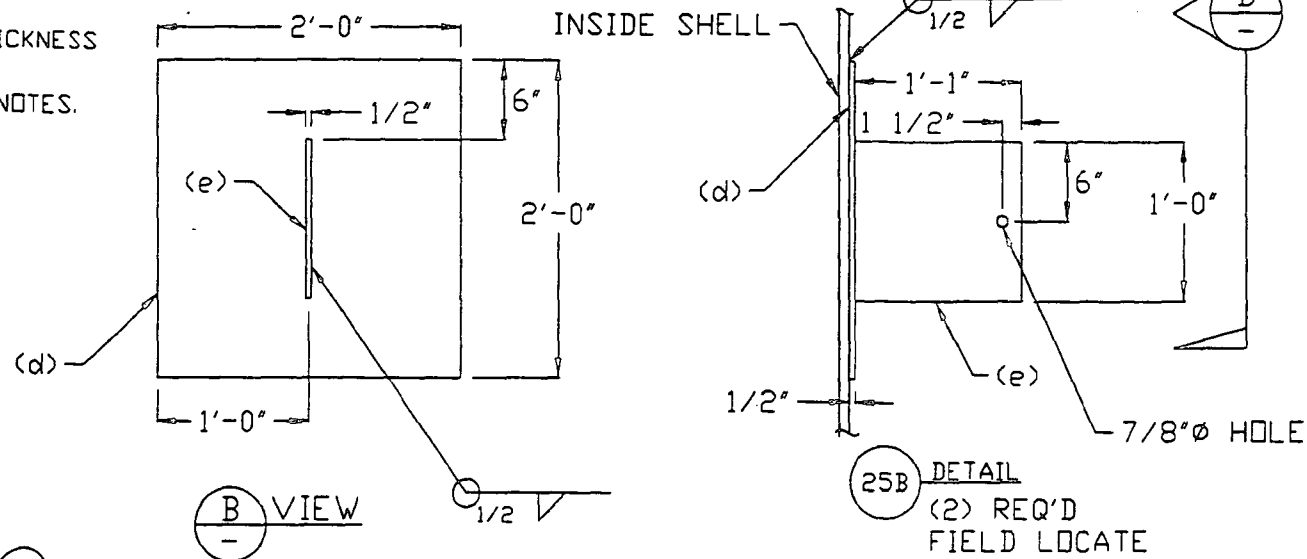
KOPPERS IND., PORTLAND, OR.  
79'-0" Ø X 57'-0" API

36"Ø AGITATOR (V)	SH.#	2380-PQ-6158
	240F50	DWG #:23800124

REV	ZN	DESCRIPTION	U	DATE	BY	CHK
REVISIONS						

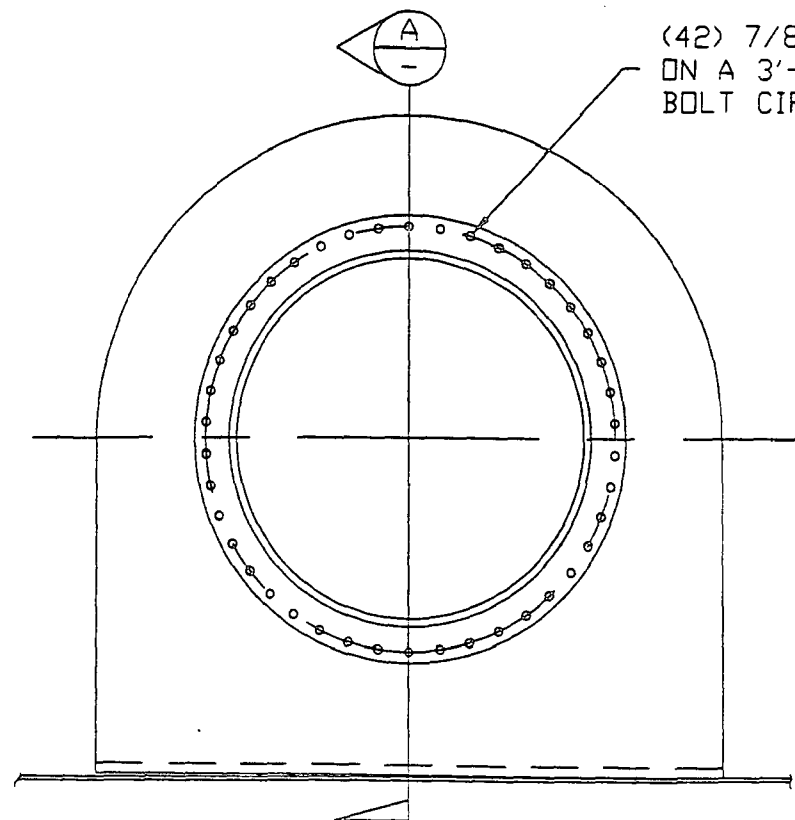
Koppers001153

- NOTES:  
UNLESS NOTED OTHERWISE  
1. WELD SIZES SHALL EQUAL THICKNESS  
OF THINNER MEMBER JOINED.  
2. SEE SHEET #1 FOR GENERAL NOTES.  
3. SEE SHEET #1 FOR COATING  
4. INSTALL 1/4" NPT & DEBURR  
BACKSIDE FOR TESTING.



MACHINE FLANGE TO  
1 1/4" MIN.

(42) 7/8" HOLES  
ON A 3'-6 1/4" BOLT CIRCLE.



25A 36" AGITATOR

SECTION A

REV	ZN	DESCRIPTION	U	DATE	BY	CHK
REVISIONS						

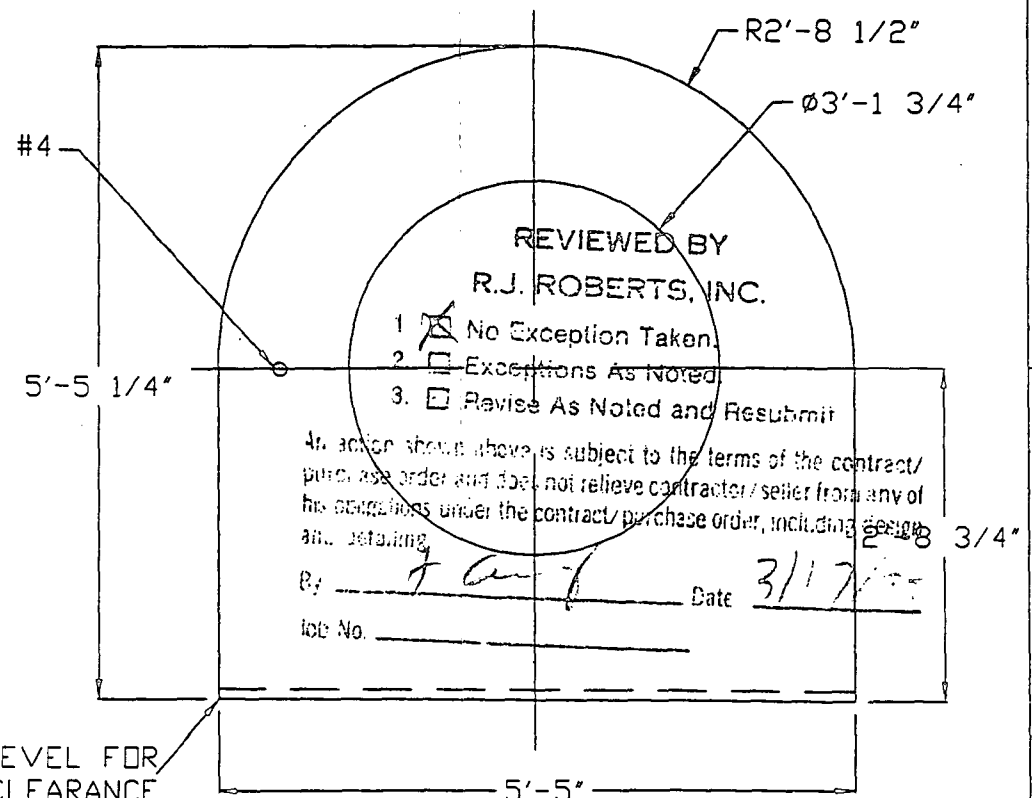
## BILL OF MATERIALS

# TO SHIP	SHIP MARK	# OF PCS.	ASSY MARK	DESCRIPTION	REMARKS	MATL'S	WT. (Lb.)
1	25A			36" AGITATOR			
		1	a	PL 0.79 X 1'-1" X 9'-7 9/16"	ROLL	A36*	285
		1	b	PL 1 X 5'-5" X 5'-5 1/4"	ROLL	A36*	918
		1	c	PL 1 3/8 X 3'-8 3/4" X 3'-1 9/16" ID	W/HOLES	A36	198
1	25Aa			PL 1 1/4 X 3'-8 3/4"	W/HOLES	A36	563
1	25Ab			GASKET 3'-8 3/4" X 3'-1 9/16" ID	W/HOLES	A36	
1	25Ac			BOLT 3/4" X 3 1/2"	PLATED	A307	50
2	25B			SUPPORT BRKT.			
		2	d	PL 1/2 X 2'-0" X 2'-0"	ROLL*	A36	163
		2	e	PL 1/2 X 1'-0" X 1'-1"	W/HOLE	A36	44

A36\* = A36 MOD.  
ROLL\* 39'-6" I.S.R.

SEE NOTE #4

BEVEL FOR  
WELD CLEARANCE



DETAIL b  
ROLL TO 39'-6" I.S.R.

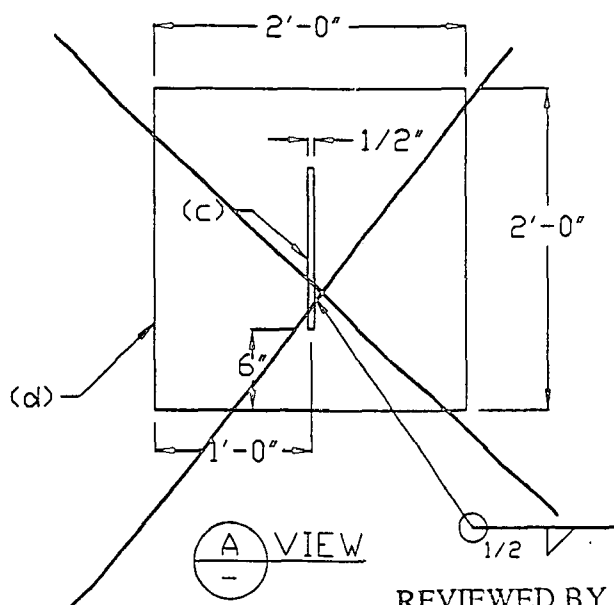
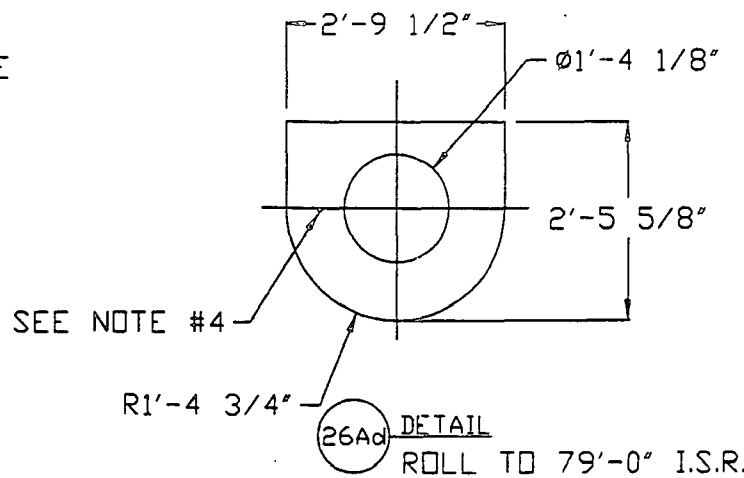
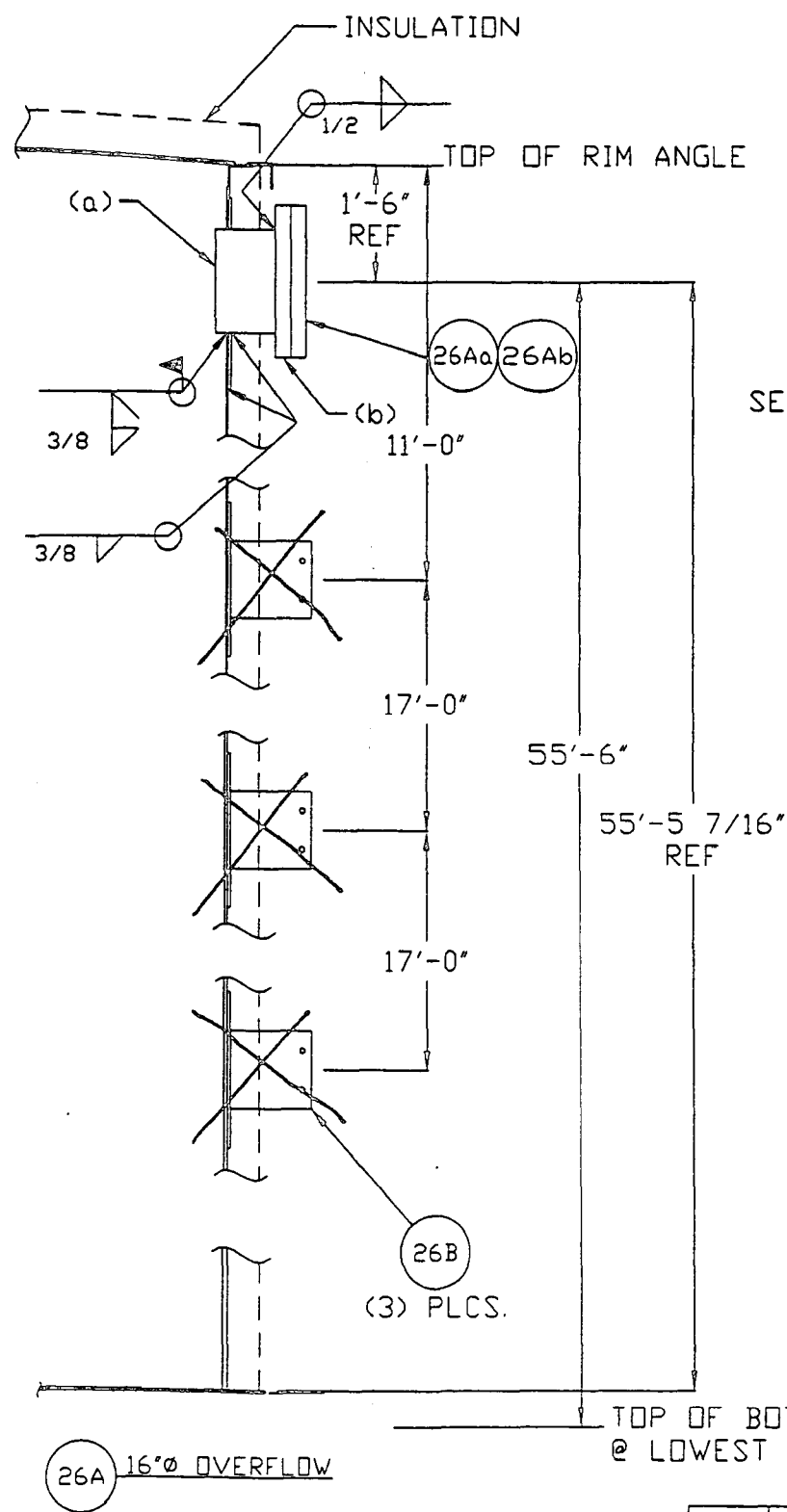
**MORSE CONSTRUCTION GROUP, INC.**  
5500 SOUTH FIRST AVE. EVERETT, WA. 98203 (206) 258-2731  
FAX (206) 259-6355

SCALE: N.T.S. APPROVED BY: *WDB* DRAWN BY: WDB  
DATE: 01-21-99 UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES PS-FAC: 20

KOPPERS IND., PORTLAND, OR.  
79'-0" X 57'-0" API

36" AGITATOR (V) SH.# 250F50 2380-PD-6158  
DWG #: 23800125

- NOTES:  
UNLESS NOTED OTHERWISE
1. WELD SIZES SHALL EQUAL THICKNESS OF THINNER MEMBER JOINED.
  2. SEE SHEET #1 FOR GENERAL NOTES.
  3. SEE SHEET #1 FOR COATING
  4. INSTALL 1/4" NPT & DEBURR BACKSIDE FOR TESTING.



REVIEWED BY  
J. CAMERON McKERNAN COMPANY

1. ☐ Complies with design drawing:  
No exceptions taken.
2. ☒ Exceptions as noted.
3. ☐ Revise as noted and re-submit.

By: C. McKernan Date: 4-13-99  
File No: P97-10

REV	ZN	DESCRIPTION	U	DATE	BY	CHK
REVISIONS						

## BILL OF MATERIALS

# TO SHIP	SHIP MARK	# OF PCS.	ASSY MARK	DESCRIPTION	REMARKS	MAT'L'S	WT. (Lb.)
1	26A			16" OVERFLOW			
		1	a	PIPE 16" XH X 1'-0"	SEAMLESS	A53B	83
		1	b	RFSO 16" 150#		A105	106
1	26Aa			BLIND FLANGE 16" 150#		A105	187
1	26Ab			GASKET 1/8" FOR 16" 150#		*FLEX	
16	26Ac			BOLT 1" X 0'-7" W/ NUT		A307	32
1	26Ad			PL 1/4 X 2'-5 1/2" X 2'-9 1/2"	TEMP/ROLL	A36	68
3	26B			MOUNTING BRKT.			
		3	c	PL 1/2 X 1'-0" X 1'-1"	W/HOLES	A36	66
		3	d	PL 1/2 X 2'-0" X 2'-0"		A36	245

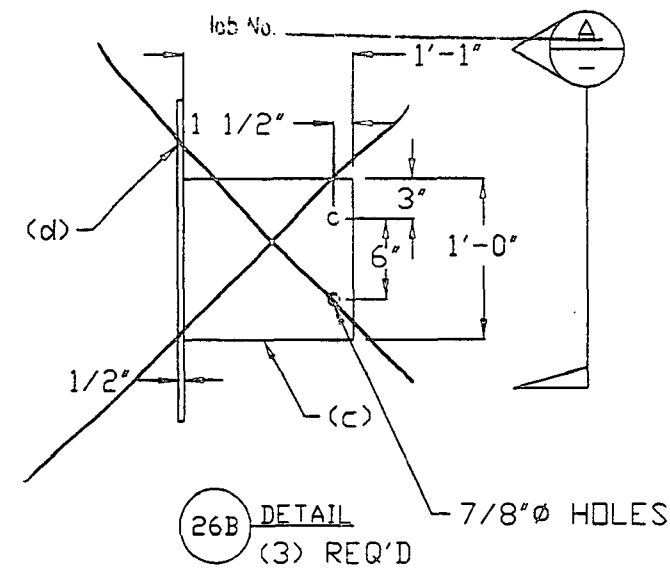
\*FLEX = FLEXATONIC STYLE FCG.

REVIEWED BY  
R.J. ROBERTS, INC.

1. ☒ No Exception Taken.
2. ☐ Exceptions As Noted.
3. ☐ Revise As Noted and Resubmit.

Any action shown above is subject to the terms of the contract/  
purchase order and does not relieve contractor/seller from any of  
his obligations under the contract/purchase order, including design  
and detailing.

By: [Signature] Date: 2/1/99



SEE KOPPERS PLAN 97010-43,  
REV 1. FOR PIPE SUPPORTS

**MORSE CONSTRUCTION GROUP, INC.**  
5500 SOUTH FIRST AVE. EVERETT, WA. 98203 (206) 258-2731 FAX (206) 259-6355

SCALE: N.T.S. APPROVED BY: UC DRAWN BY: WDB  
DATE: 01-20-99 UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES PS-FAC: 30

KOPPERS IND., PORTLAND, OR.  
79'-0" X 57'-0" API

16" OVERFLOW SH.# 2380-PD-6158  
26DF50 DWG #: 23800126

VD05178 1104-01

Koppers001155



NOTES:  
UNLESS NOTED OTHERWISE  
1. WELD SIZES SHALL EQUAL THICKNESS  
OF THINNER MEMBER JOINED.  
2. SEE SHEET #1 FOR GENERAL NOTES.  
3. SEE SHEET #1 FOR COATING  
4. INSTALL 1/4"Ø NPT & DEBURR  
BACKSIDE FOR TESTING.

REVIEWED BY  
R.J. ROBERTS, INC.

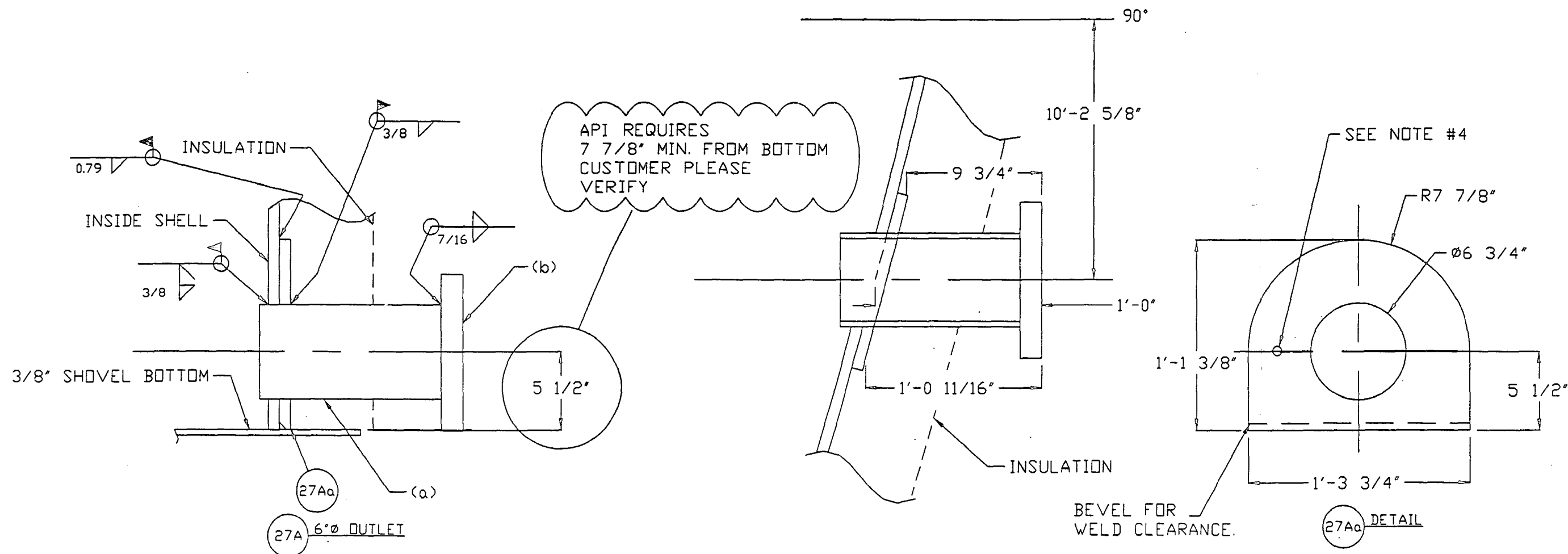
1. ☒ No Exception Taken.  
2. ☐ Exceptions As Noted.  
3. ☐ Revise As Noted and Resubmit.

An action shown above is subject to the terms of the contract/  
purchase order and does not relieve contractor/seller from any of  
his obligations under the contract/purchase order, including design  
and detailing.

By 2.0 Date 3/17/99  
Job No. \_\_\_\_\_

# BILL OF MATERIALS

# TO SHIP	SHIP MARK	# OF PCS.	ASSY MARK	DESCRIPTION	REMARKS	MAT'L'S	WT. (Lb.)
1	27A			6"Ø OUTLET			
		1	a	PIPE 6"Ø XH X 1'-2 3/8"	SEAMLESS	A53B	30
		1	b	RFSO 6"Ø 150#		A105	17
1	27Aa			PL 0.79 X 1-1 3/8" X 1'-3 3/4"	TEMP	A36	43



MORSE CONSTRUCTION GROUP, INC.  
5500 SOUTH FIRST AVE. EVERETT, VA. 98203 (206) 258-2731  
FAX (206) 259-6355

SCALE: N.T.S. APPROVED BY: NC DRAWN BY: WDB  
DATE: 01-20-99 UNLESS OTHERWISE SPECIFIED  
DIMENSIONS ARE IN INCHES PS-FAC: 8

KOPPERS IND., PORTLAND, OR.  
79'-0"Ø X 57'-0" API

REV	ZN	DESCRIPTION	U	DATE	BY	CHK
		REVISIONS				

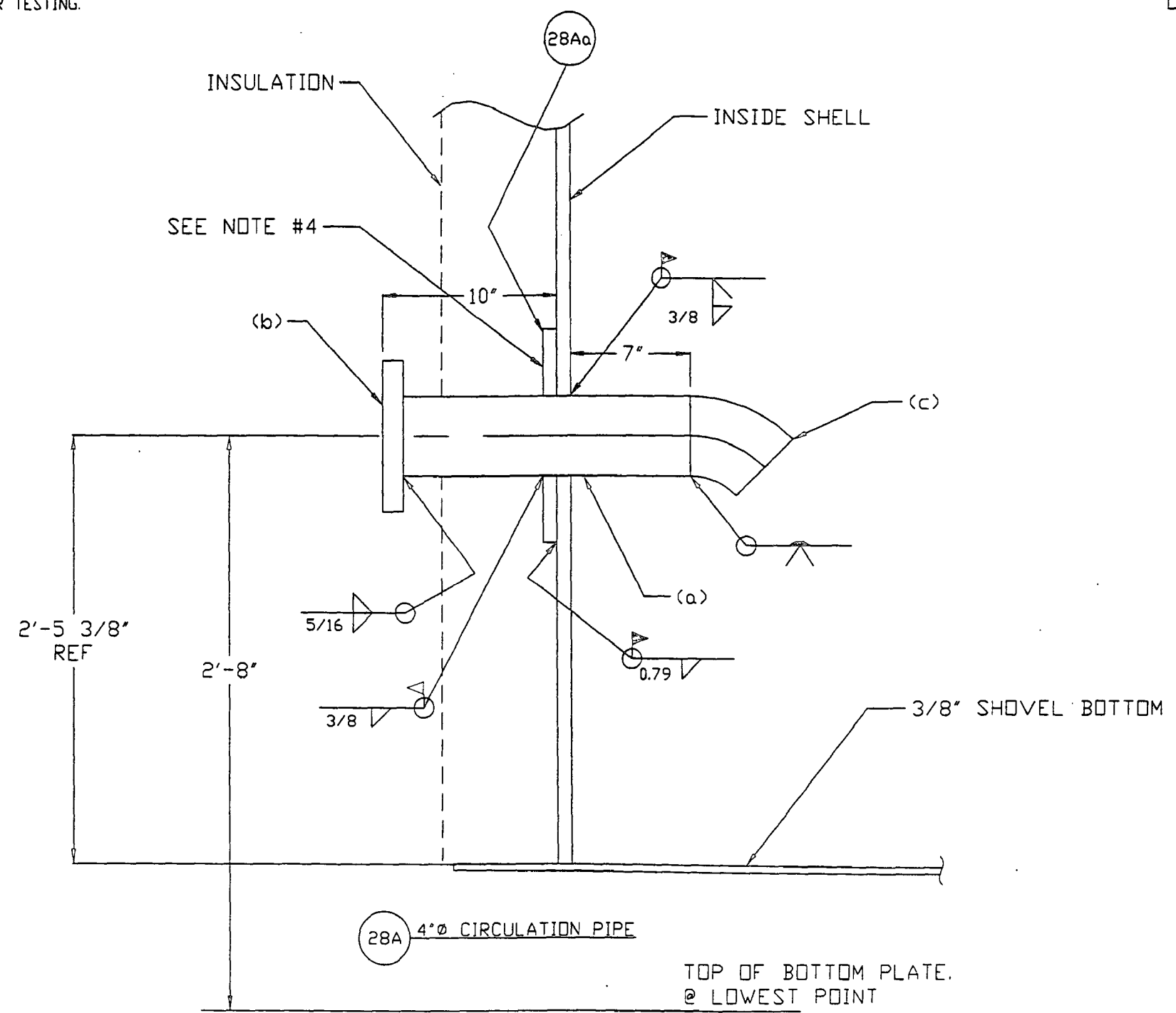
6"Ø OUTLET (C) SH.# 2380-PD-6158  
270F50 DWG #: 23800127

Koppers001156

NOTES:  
UNLESS NOTED OTHERWISE  
1. WELD SIZES SHALL EQUAL THICKNESS  
OF THINNER MEMBER JOINED.  
2. SEE SHEET #1 FOR GENERAL NOTES.  
3. SEE SHEET #1 FOR COATING  
4. INSTALL 1/4"Ø NPT & DEBURR  
BACKSIDE FOR TESTING.

BILL OF MATERIALS						
# TO SHIP	SHIP MARK	# OF PCS.	ASSY MARK	DESCRIPTION	REMARKS	MAT'L'S WT. (Lb.)
1	28A			4"Ø CIRCULATION PIPE		
		1	Q	PIPE 4"Ø XH X 1'-3 1/2"	SEAMLESS	A53B 17
		1	b	RFSD 4"Ø 150#		A105 13
		1	C	ELL 4"Ø STD 45°		A234 15
1	28Aa			PL 0.79 X 1'-0"Ø X 0'-4 5/8" ID		A36* 17

A36\* = A36 MOD.



REVIEWED BY  
R.J. ROBERTS, INC.  
1 ☒ No Exception Taken.  
2 ☐ Exceptions As Noted.  
3 ☐ Revise As Noted and Resubmit.  
An action shown above is subject to the terms of the contract/  
purchase order and does not relieve contractor/seller from any of  
his obligations under the contract/purchase order, including design  
and detailing.  
By gac Date 3/17/99  
Job No. \_\_\_\_\_

MORSE CONSTRUCTION GROUP, INC.			
5500 SOUTH FIRST AVE. EVERETT, WA. 98203 (206) 258-2731 FAX (206) 259-6355			
SCALE: N.T.S.	APPROVED BY: <u>UC</u>	DRAWN BY: WDB	
DATE: 01-20-99	UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES		PS-FAC: 8
KOPPERS IND., PORTLAND, OR. 79'-0"Ø X 57'-0" API			
4"Ø CIRCULATION PIPE		SH.# 280F50	2380-PD-6158 DWG #: 23800128

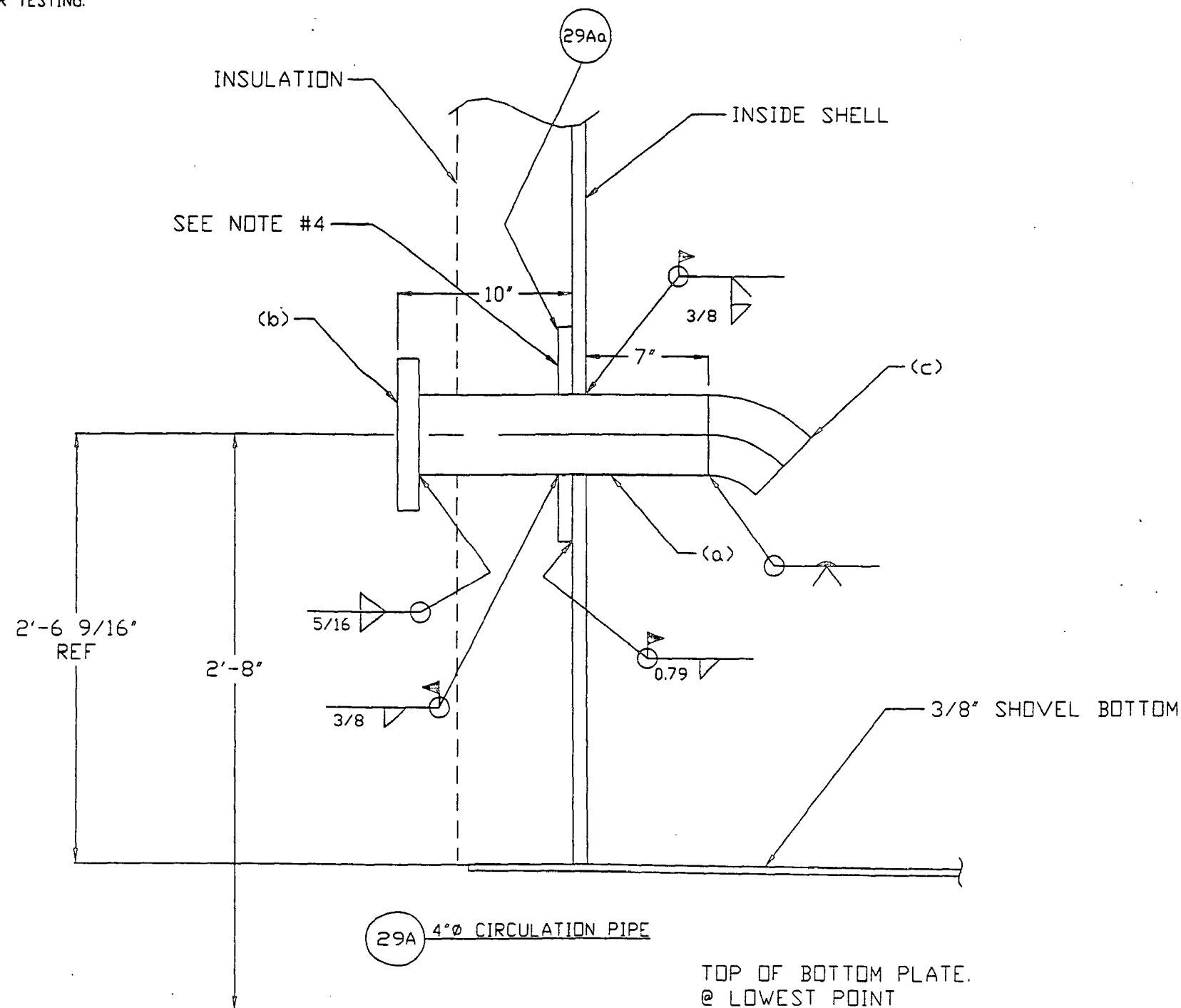
REV	ZN	DESCRIPTION	U	DATE	BY	CHK
REVISIONS						

Koppers001157

NOTES:  
UNLESS NOTED OTHERWISE  
1. WELD SIZES SHALL EQUAL THICKNESS  
OF THINNER MEMBER JOINED.  
2. SEE SHEET #1 FOR GENERAL NOTES.  
3. SEE SHEET #1 FOR COATING  
4. INSTALL 1/4" NPT & DEBURR  
BACKSIDE FOR TESTING.

BILL OF MATERIALS						
# TO SHIP	SHIP MARK	# OF PCS.	ASSY MARK	DESCRIPTION	REMARKS	MAT'L'S WT. (Lb.)
1	29A			4"Ø CIRCULATION PIPE		
		1	a	PIPE 4"Ø XH X 1'-3 1/2"	SEAMLESS	A53B 17
		1	b	RFSD 4"Ø 150#		A105 13
		1	C	ELL 4"Ø STD 45°		A234 15
1	29Aa			PL 0.79 X 1'-0"Ø X 0'-4 5/8" ID		A36* 17

A36\* = A36 MOD.



REVIEWED BY  
R.J. ROBERTS, INC.

- ☒ No Exception Taken.
- ☐ Exceptions As Noted.
- ☐ Revise As Noted and Resubmit.

An action shown above is subject to the terms of the contract/  
purchase order and does not relieve contractor/seller from any of  
his obligations under the contract/purchase order, including design  
and detailing.

By 7 a-1 Date 3/17/97  
Job No. \_\_\_\_\_

MORSE CONSTRUCTION GROUP, INC.			
5500 SOUTH FIRST AVE. EVERETT, WA. 98203 (206) 258-2731 FAX (206) 259-6355			
SCALE: N.T.S.	APPROVED BY: <u>W/C</u>	DRAWN BY: WDB	
DATE: 01-20-99	UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES		PS-FAC: 8
KOPPERS IND., PORTLAND, OR. 79'-0"Ø X 57'-0" API			
4"Ø CIRCULATION PIPE		SH.# 290F50	2380-PD-6158 DWG #: 23800129

REV	ZN	DESCRIPTION	U	DATE	BY	CHK
REVISIONS						

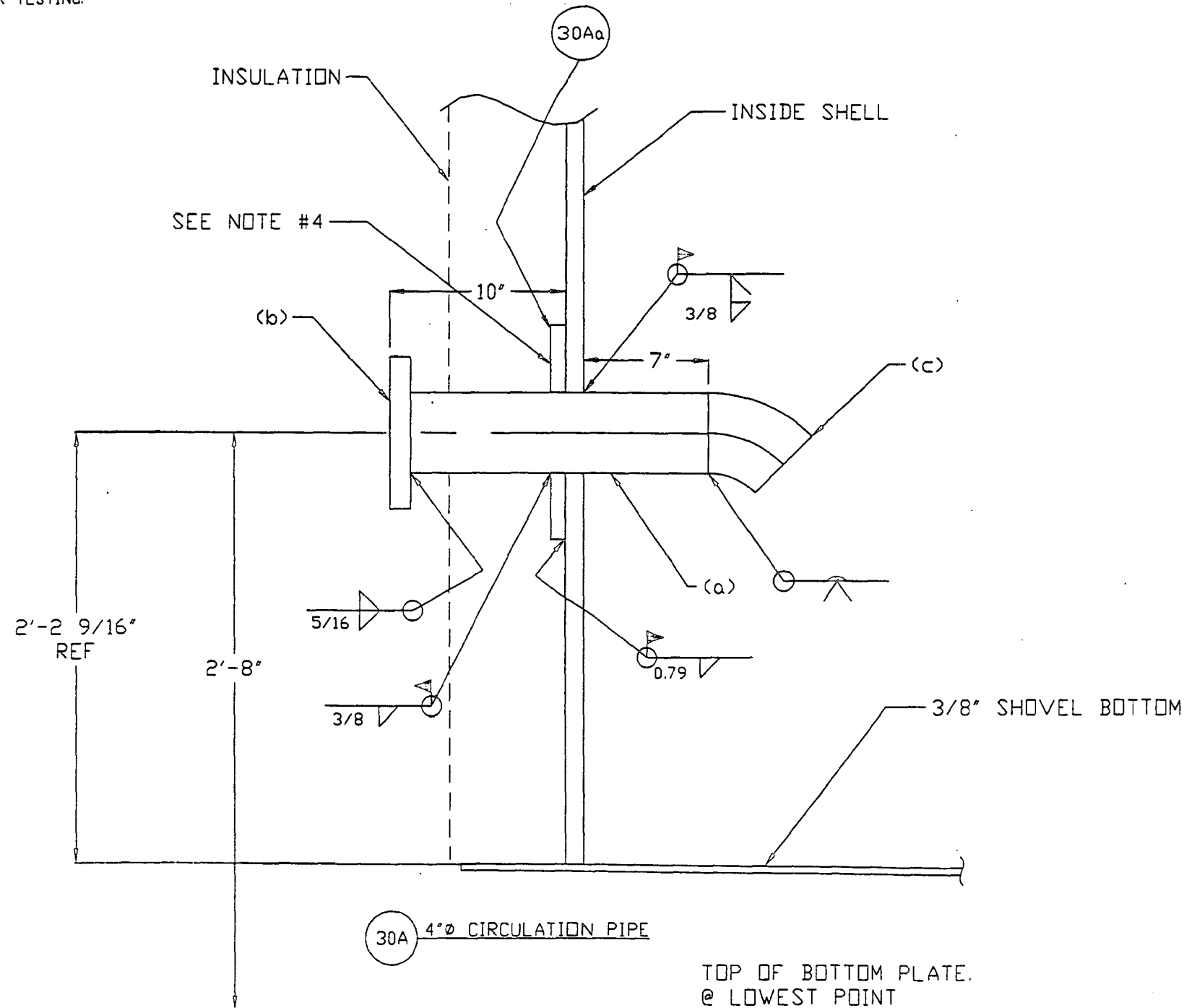
Koppers001158

- NOTES:  
UNLESS NOTED OTHERWISE
1. WELD SIZES SHALL EQUAL THICKNESS OF THINNER MEMBER JOINED.
  2. SEE SHEET #1 FOR GENERAL NOTES.
  3. SEE SHEET #1 FOR COATING
  4. INSTALL 1/4" NPT & DEBURR BACKSIDE FOR TESTING.

## BILL OF MATERIALS

# TO SHIP	SHIP MARK	# OF PCS.	ASSY MARK	DESCRIPTION	REMARKS	MATL'S	WT. (Lb.)
1	30A			4"Ø CIRCULATION PIPE			
		1	a	PIPE 4"Ø XH X 1'-3 1/2"	SEAMLESS	A53B	15
		1	b	RFSO 4"Ø 150#		A105	13
		1	C	ELL 4"Ø STD 45°		A234	15
1	30Aa			PL 0.79 X 1'-0"Ø X 0'-4 5/8" ID		A36*	17

A36\* = A36 MOD.



REVIEWED BY  
R.J. ROBERTS, INC.

1. ☒ No Exception Taken.
2. ☐ Exceptions As Noted.
3. ☐ Revise As Noted and Resubmit.

An action shown above is subject to the terms of the contract/purchase order and does not relieve contractor/seller from any of his obligations under the contract/purchase order, including design and detailing.

By [Signature] Date 5/11/95  
Job No. \_\_\_\_\_

**MORSE CONSTRUCTION GROUP, INC.**  
5500 SOUTH FIRST AVE. EVERETT, VA. 98203 (206) 258-2731  
FAX (206) 259-6355

SCALE: N.T.S. APPROVED BY: [Signature] DRAWN BY: WDB  
DATE: 01-20-99 UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES PS-FAC: 8

KOPPERS IND., PORTLAND, OR.  
79'-0"Ø X 57'-0" API

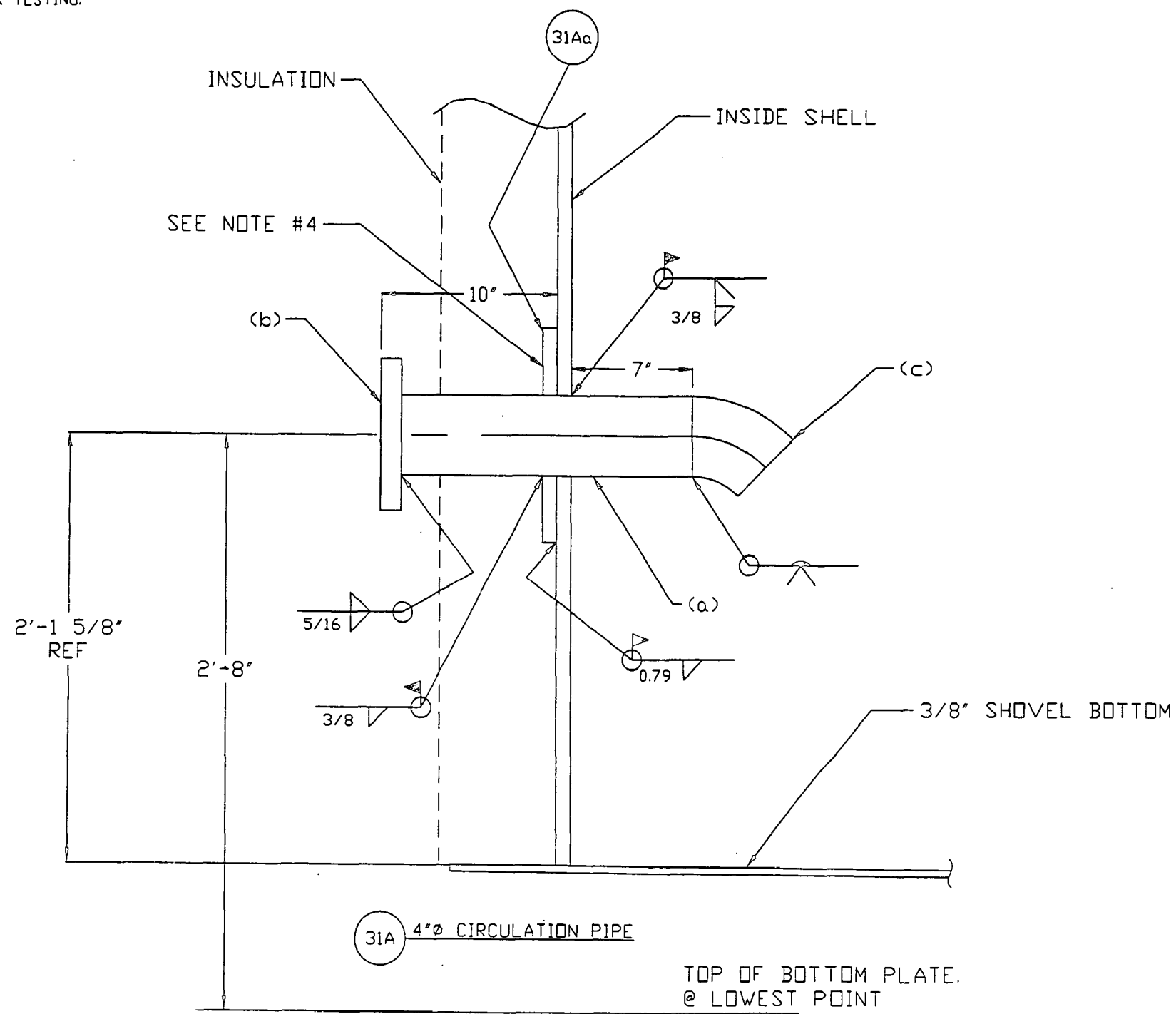
4"Ø CIRCULATION PIPE SH.# 2380-PD-6158  
30DF50 DWG #: 23800130

REV	ZN	DESCRIPTION	U	DATE	BY	CHK
REVISIONS						

NOTES:  
UNLESS NOTED OTHERWISE  
1. WELD SIZES SHALL EQUAL THICKNESS  
OF THINNER MEMBER JOINED.  
2. SEE SHEET #1 FOR GENERAL NOTES.  
3. SEE SHEET #1 FOR COATING  
4. INSTALL 1/4"Ø NPT & DEBURR  
BACKSIDE FOR TESTING.

BILL OF MATERIALS						
# TO SHIP	SHIP MARK	# OF PCS.	ASSY MARK	DESCRIPTION	REMARKS	MAT'L'S WT. (LB.)
1	31A			4"Ø CIRCULATION PIPE		
		1	a	PIPE 4"Ø XH X 1'-3 1/2"	SEAMLESS	A53B 17
		1	b	RFSØ 4"Ø 150#		A105 13
		1	C	ELL 4"Ø STD 45°		A234 15
1	31Aa			PL 0.79 X 1'-0"Ø X 0'-4 5/8" ID		A36* 17

A36\* = A36 MOD.



REVIEWED BY  
R.J. ROBERTS, INC.

- 1. ☒ No Exception Taken.
- 2. ☐ Exceptions As Noted.
- 3. ☐ Revise As Noted and Resubmit.

All action shown above is subject to the terms of the contract/  
purchase order and does not relieve contractor/seller from any of  
his obligations under the contract/purchase order, including design  
and detailing.

By A. Q. Y. / Date 3/17/99  
DOC NO. \_\_\_\_\_

MORSE CONSTRUCTION GROUP, INC.			
5500 SOUTH FIRST AVE. EVERETT, WA. 98203 (206) 258-2731 FAX (206) 259-6355			
SCALE: N.T.S.	APPROVED BY: <u>MC</u>	DRAWN BY: WDB	
DATE: 01-20-99	UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES		PS-FAC: 8
KOPPERS IND., PORTLAND, OR. 79'-0"Ø X 57'-0" API			
4"Ø CIRCULATION PIPE		SH.# 31 OF 50	2380-PD-6158 DWG #: 23800131

REV	ZN	DESCRIPTION	U	DATE	BY	CHK
REVISIONS						

Koppers001160

WDB5178 133948

- NOTES:  
UNLESS NOTED OTHERWISE
1. WELD SIZES SHALL EQUAL THICKNESS OF THINNER MEMBER JOINED.
  2. SEE SHEET #1 FOR GENERAL NOTES.
  3. SEE SHEET #1 FOR COATING
  4. INSTALL 1/4" NPT & DEBURR BACKSIDE FOR TESTING.

REVIEWED BY  
R.J. ROBERTS, INC.

1. ☒ No Exception Taken.
2. ☐ Exceptions As Noted.
3. ☐ Revise As Noted and Resubmit.

An action shown above is subject to the terms of the contract/  
purchase order and does not relieve contractor/seller from any of  
his obligations under the contract/purchase order, including design  
and detailing.

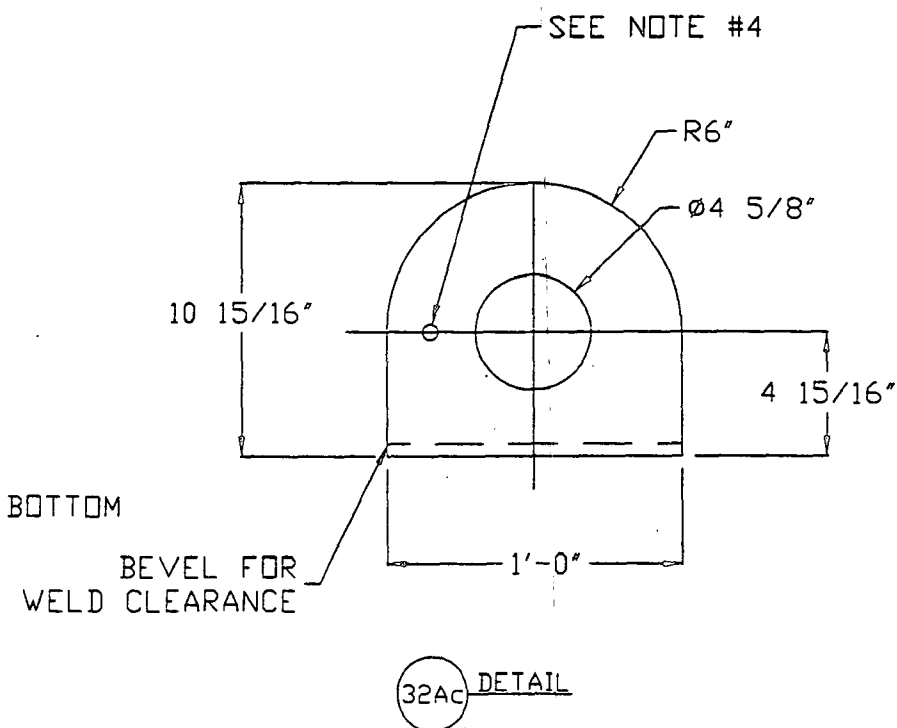
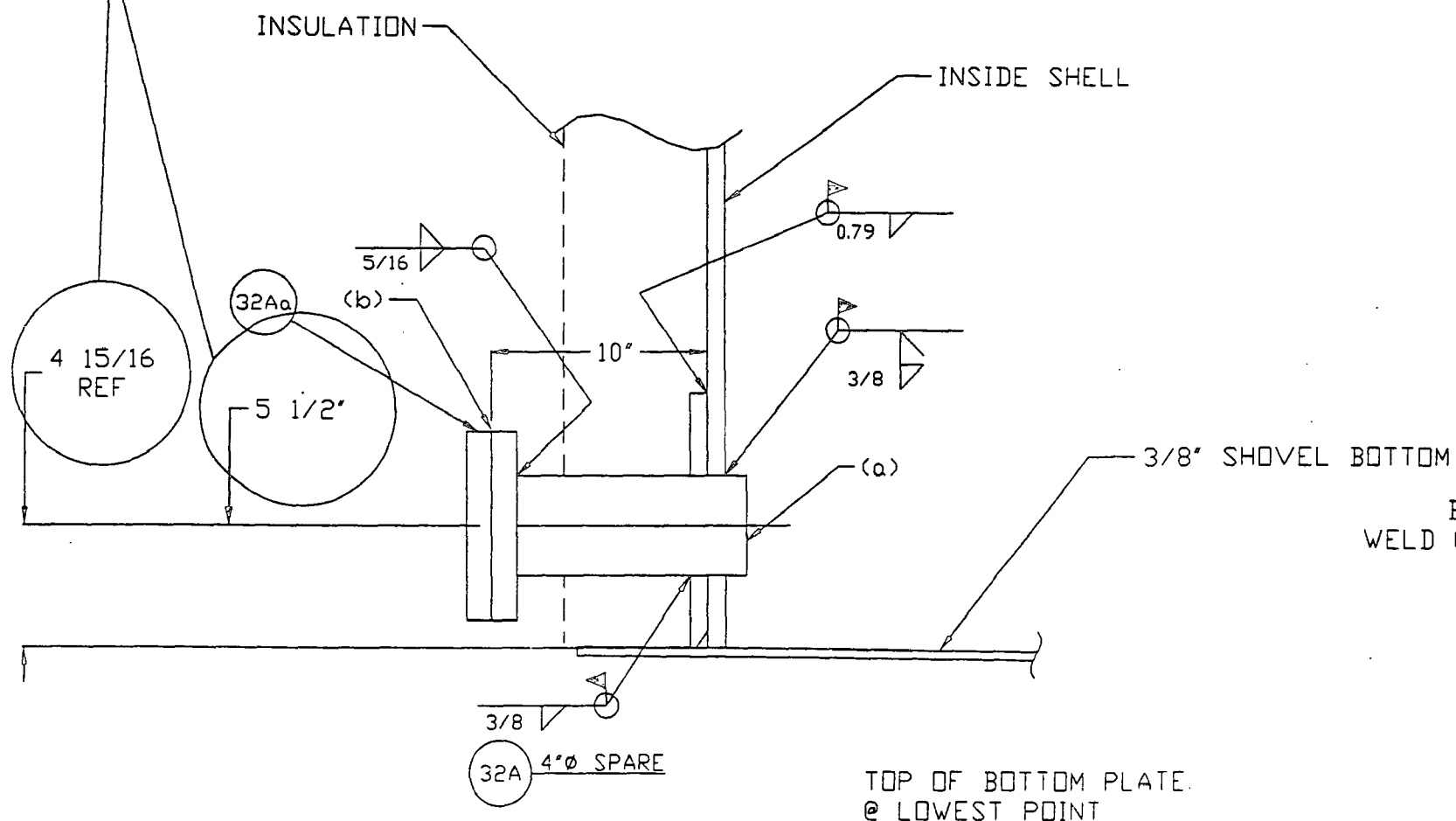
By F. Lee Date 3/17/99  
Job No. \_\_\_\_\_

## BILL OF MATERIALS

# TO SHIP	SHIP MARK	# OF PCS.	ASSY MARK	DESCRIPTION	REMARKS	MATL'S	WT. (Lb.)
1	32A			4"Ø SPARE			
		1	a	PIPE 4"Ø XH X 0'-11 1/2"	SEAMLESS	A53B	15
		1	b	RFSO 4"Ø 150#		A105	13
1	32Aa			BLIND FLANGE 4"Ø 150#		A105	17
8	32Ab			BOLT 5/8"Ø X 0'-3 1/2" W/ NUT	PLATED	A307	4
1	32Ac			PL 0.79 X 0'-10 15/16" X 1'-0"	TEMP/ROLL	A36*	30
1	32Ad			GASKET 1/8" FOR 4"Ø RFSO 150#	*FLEX		1

\*FLEX = FLEXATLIC STYLE CG  
A36\* = A36 MOD.

API REQUIRES 6" MIN.  
FROM BOTTOM PLATE.  
CUSTOMER PLEASE  
VERIFY.



**MORSE CONSTRUCTION GROUP, INC.**  
5500 SOUTH FIRST AVE. EVERETT, WA. 98203 (206) 258-2731  
FAX (206) 259-6355

SCALE: N.T.S. APPROVED BY: UL DRAWN BY: WDB  
DATE: 01-20-99 UNLESS OTHERWISE SPECIFIED  
DIMENSIONS ARE IN INCHES PS-FAC: 8

KOPPERS IND., PORTLAND, OR.  
79'-0"Ø X 57'-0" API

4"Ø SPARE (G) SH.# 2380-PD-6158  
32OF50 DWG #: 23800132

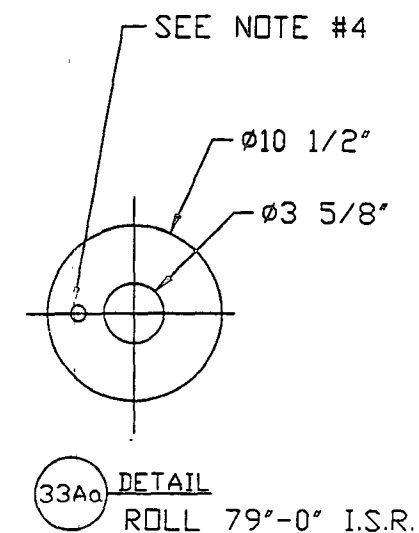
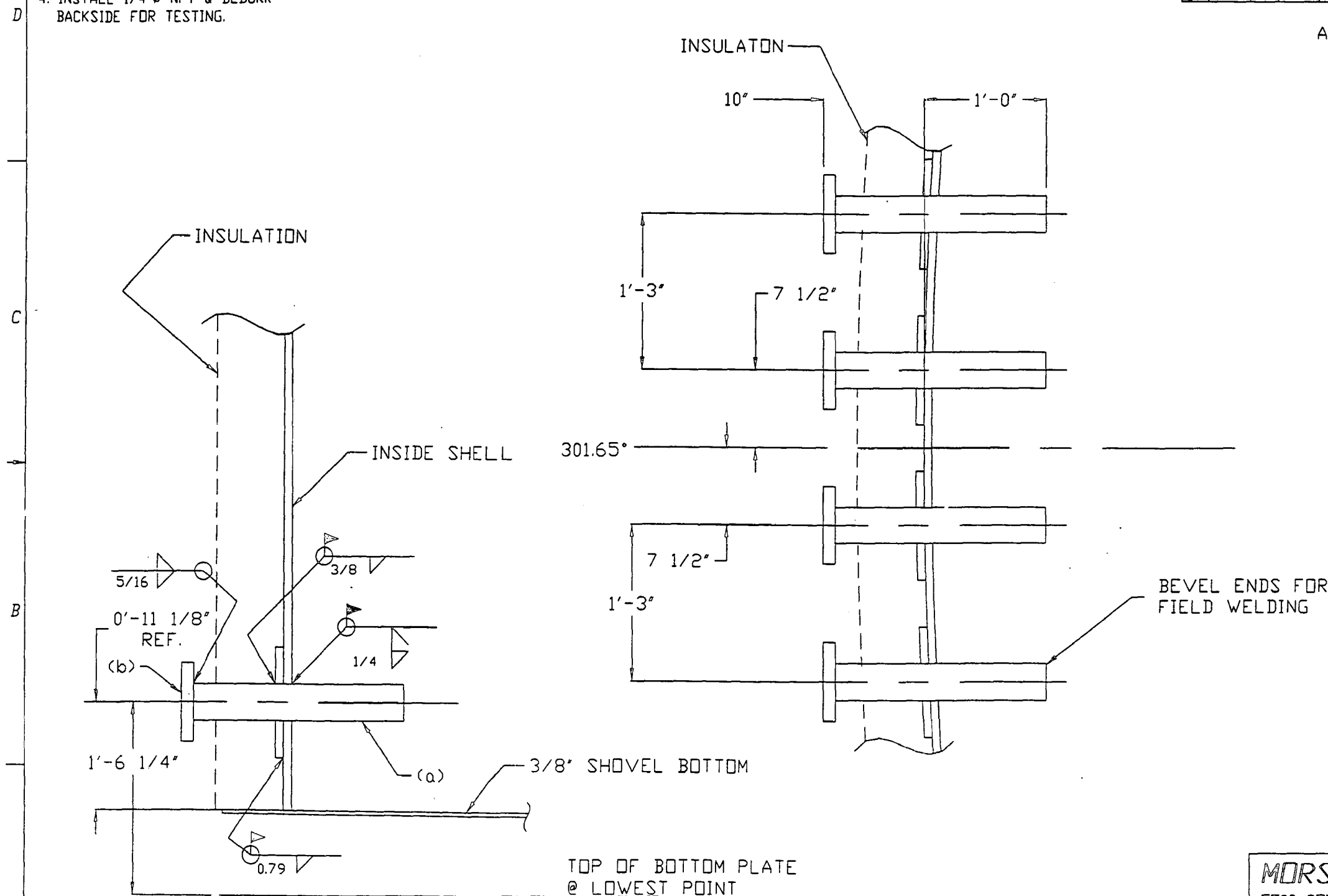
REV	ZN	DESCRIPTION	U	DATE	BY	CHK
REVISIONS						

Koppers001161

NOTES:  
UNLESS NOTED OTHERWISE  
1. WELD SIZES SHALL EQUAL THICKNESS  
OF THINNER MEMBER JOINED.  
2. SEE SHEET #1 FOR GENERAL NOTES.  
3. SEE SHEET #1 FOR COATING  
4. INSTALL 1/4" NPT & DEBURR  
BACKSIDE FOR TESTING.

BILL OF MATERIALS						
# TO SHIP	SHIP MARK	# OF PCS.	ASSY MARK	DESCRIPTION	REMARKS	MATL'S WT. (Lb.)
4	33A			3"Ø HEATERS		
		4	a	PIPE 3"Ø XH X 1'-9 11/16	SEAMLESS	A53B 75
		4	b	RFSO 3"Ø 150#		A105 36
4	33Aa			PL 0.79 X 0'-10 1/2"Ø X 0'-3 5/8" ID	ROLL	A36* 25

A36\* = A36 MOD.



REVIEWED BY  
R.J. ROBERTS, INC.

- ☒ No Exception Taken.
- ☐ Exceptions As Noted.
- ☐ Revise As Noted and Resubmit.

All action shown above is subject to the terms of the contract/  
purchase order and does not relieve contractor/seller from any of  
his obligations under the contract/purchase order, including design  
and detailing.

By J. A. R. J. Date 7/17/99  
Job No. \_\_\_\_\_

<b>MORSE CONSTRUCTION GROUP, INC.</b>			
5500 SOUTH FIRST AVE. EVERETT, WA. 98203 (206) 258-2731 FAX (206) 259-6355			
SCALE: N.T.S.	APPROVED BY: <u>WDB</u>	DRAWN BY: WDB	
DATE: 01-20-99	UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES		PS-FAC: 12
KOPPERS IND., PORTLAND, OR. 79'-0"Ø X 57'-0" API			
3"Ø HEATERS (E)		SH.# 330F50	2380-PD-6158 DWG #: 23800133

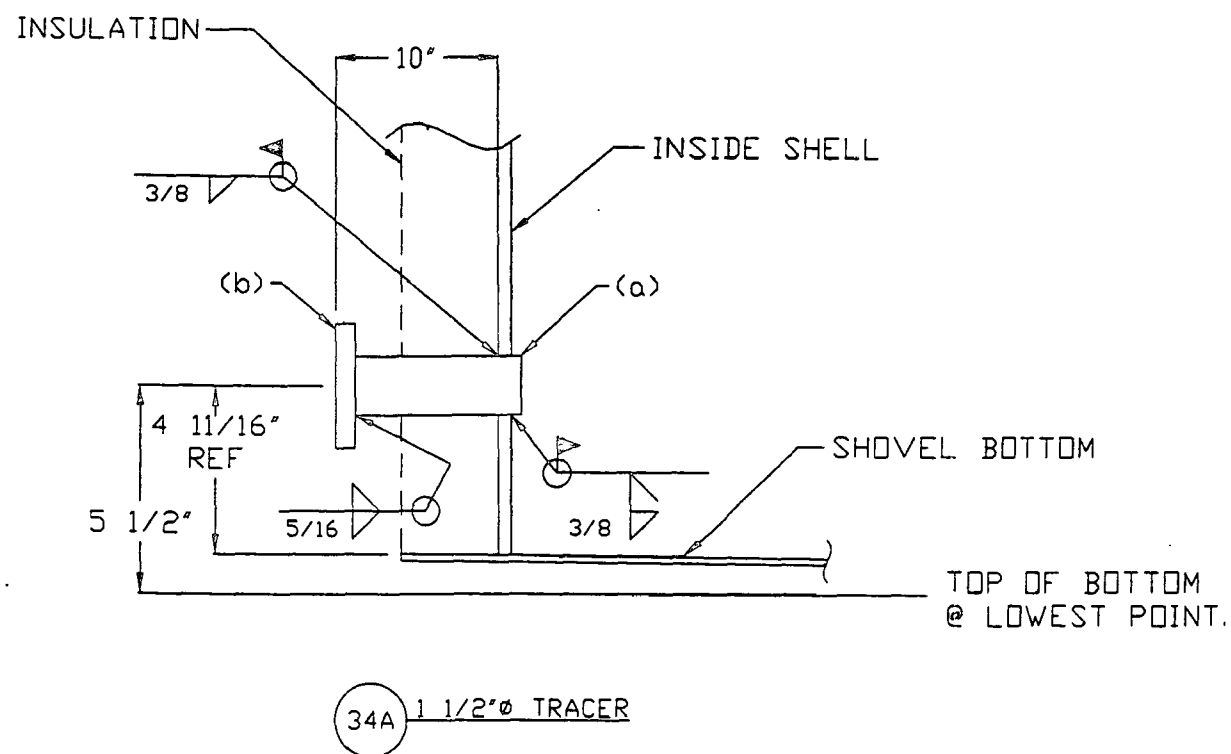
REV	ZN	DESCRIPTION	U	DATE	BY	CHK
REVISIONS						

Koppers001162

V085178 13-4107

NOTES:  
UNLESS NOTED OTHERWISE  
1. WELD SIZES SHALL EQUAL THICKNESS  
OF THINNER MEMBER JOINED.  
2. SEE SHEET #1 FOR GENERAL NOTES.  
3. SEE SHEET #1 FOR COATING

BILL OF MATERIALS						
# TO SHIP	SHIP MARK	# OF PCS.	ASSY MARK	DESCRIPTION	REMARKS	MATL'S V.T. (Lb.)
1	34A			1 1/2"Ø TRACER		
		1	a	PIPE 1 1/2"Ø XH X 1'-0"	SEAMLESS	A53B 4
		1	b	RFSO 1 1/2"Ø 150#		A105 3



REVIEWED BY  
R.J. ROBERTS, INC.

- ☒ No Exception Taken.
- ☐ Exceptions As Noted.
- ☐ Revise As Noted and Resubmit.

All action shown above is subject to the terms of the contract/  
purchase order and does not relieve contractor/seller from any of  
his obligations under the contract/purchase order, including design  
and detailing.

By J. G. Y. Y. Date 3/17/97  
Job No. \_\_\_\_\_

<b>MORSE CONSTRUCTION GROUP, INC.</b>			
5500 SOUTH FIRST AVE. EVERETT, WA. 98203 (206) 258-2731 FAX (206) 259-6355			
SCALE: N.T.S.	APPROVED BY: <u>MC</u>	DRAWN BY WDB	
DATE: 01-21-99	UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES		PS-FAC 12
KOPPERS IND., PORTLAND, OR. 79'-0"Ø X 57'-0" API			
1 1/2"Ø TRACER		SH.# 340F50	2380-PD-6158 DWG #: 23800134

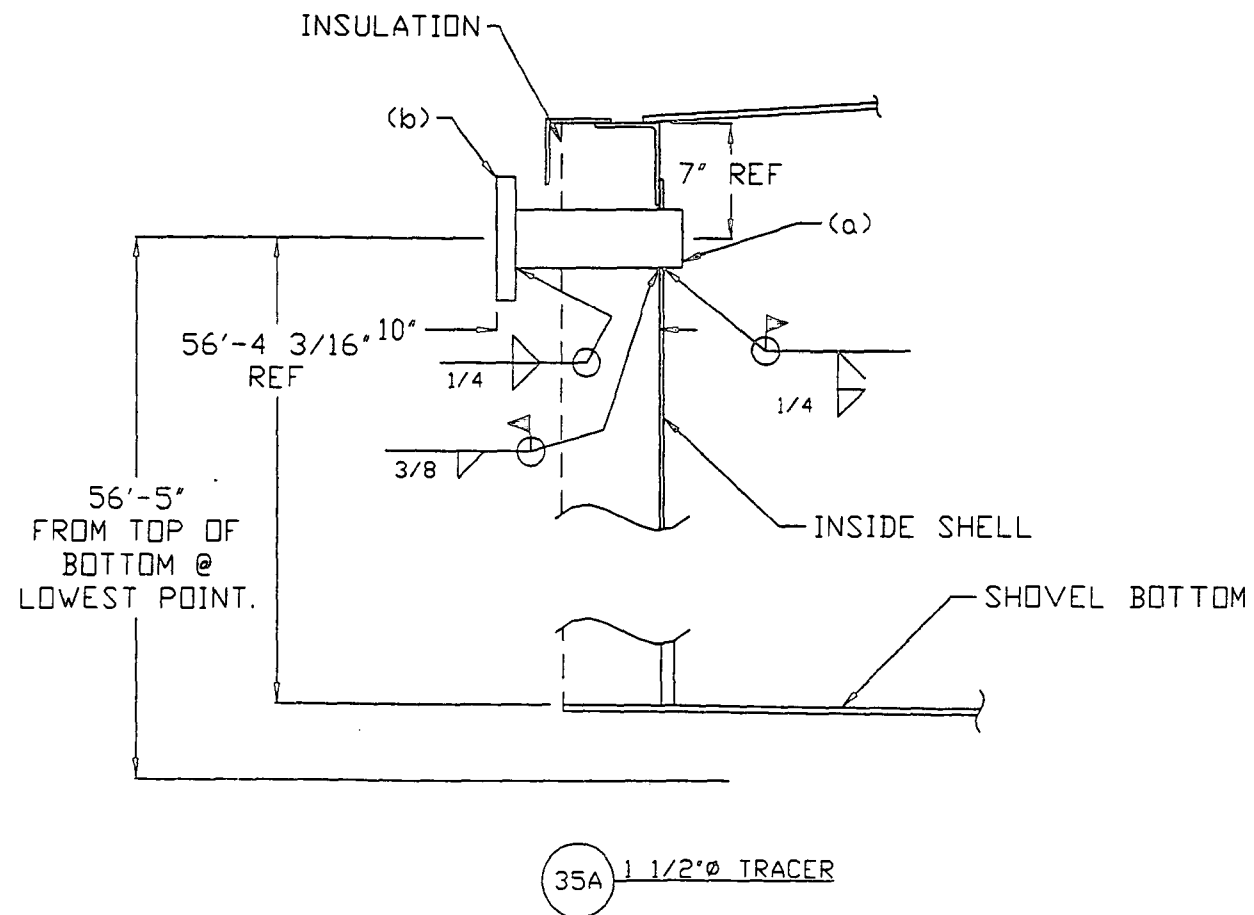
REV	ZN	DESCRIPTION	U	DATE	BY	CHK
REVISIONS						

Koppers001163



NOTES:  
UNLESS NOTED OTHERWISE  
1. WELD SIZES SHALL EQUAL THICKNESS  
OF THINNER MEMBER JOINED.  
2. SEE SHEET #1 FOR GENERAL NOTES.  
3. SEE SHEET #1 FOR COATING

BILL OF MATERIALS						
# TO SHIP	SHIP MARK	# OF PCS.	ASSY MARK	DESCRIPTION	REMARKS	MAT'L'S VT. (Lb.)
1	35A			1 1/2"Ø TRACER		
		1	a	PIPE 1 1/2"Ø XH X 1'-0"	SEAMLESS	A53B 4
		1	b	RFSO 1 1/2"Ø 150#		A53B 3



REVIEWED BY  
R.J. ROBERTS, INC.

- ☒ No Exception Taken.
- ☐ Exceptions As Noted.
- ☐ Revise As Noted and Resubmit.

All action shown above is subject to the terms of the contract/  
purchase order and does not relieve contractor/seller from any of  
his obligations under the contract/purchase order, including design  
and detailing.

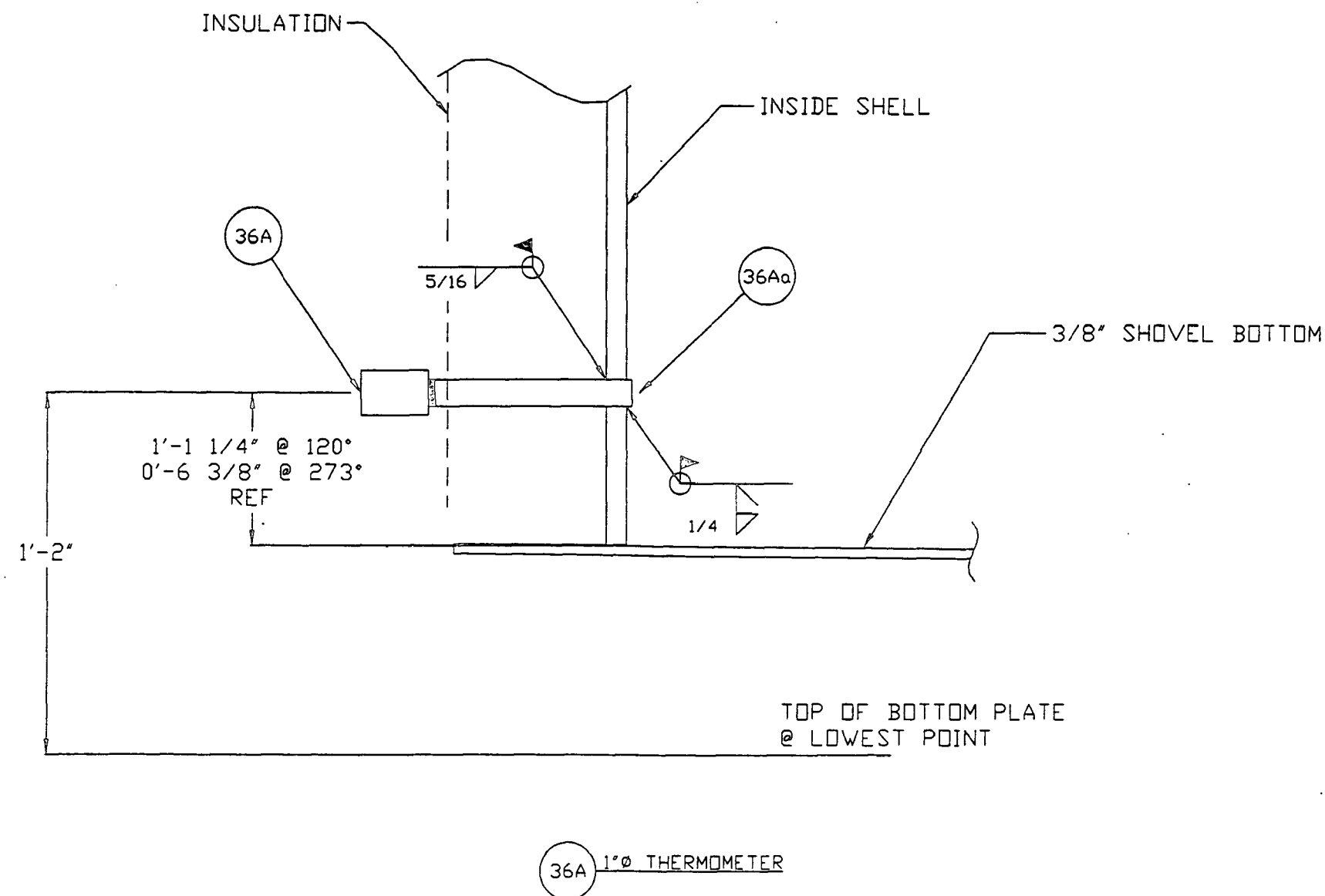
By T. A. J. Date 3/1/97  
Job No. \_\_\_\_\_

<b>MORSE CONSTRUCTION GROUP, INC.</b>			
5500 SOUTH FIRST AVE. EVERETT, WA. 98203 (206) 258-2731 FAX (206) 259-6355			
SCALE: N.T.S.	APPROVED BY: <u>NC</u>	DRAWN BY: WDB	
DATE: 01-21-99	UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES		PS-FAC: 12
KOPPERS IND., PORTLAND, OR. 79'-0"Ø X 57'-0" API			
1 1/2"Ø TRACER (X)		SH.# 350F50	2380-PD-6158 DWG #: 23800135

REV	ZN	DESCRIPTION	U	DATE	BY	CHK
REVISIONS						

NOTES:  
UNLESS NOTED OTHERWISE  
1. WELD SIZES SHALL EQUAL THICKNESS  
OF THINNER MEMBER JOINED.  
2. SEE SHEET #1 FOR GENERAL NOTES.  
3. SEE SHEET #1 FOR COATING

BILL OF MATERIALS						
# TO SHIP	SHIP MARK	# OF PCS.	ASSY MARK	DESCRIPTION	REMARKS	MAT'L'S WT. (Lb.)
				1"Ø THERMOMETER		
2	36A			FULL COUPLING 1"Ø 3000#	THREADED	A234 2
2	36Aa			PIPE 1"Ø XH X 0'-8"	THRDIE	A53B 2



REVIEWED BY  
R.J. ROBERTS, INC.

- ☒ No Exception Taken.
- ☐ Exceptions As Noted.
- ☐ Revise As Noted and Resubmit.

An action shown above is subject to the terms of the contract/  
purchase order and does not relieve contractor/seller from any of  
his obligations under the contract/purchase order, including design  
and detailing.

By T. Roberts Date 4/1/99  
Job No. \_\_\_\_\_

<b>MORSE CONSTRUCTION GROUP, INC.</b>			
5500 SOUTH FIRST AVE. EVERETT, WA. 98203 (206) 258-2731 FAX (206) 259-6355			
SCALE: N.T.S.	APPROVED BY: <u>NC</u>	DRAWN BY: WDB	
DATE: 01-20-99	UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES		PS-FAC: 6
KOPPERS IND., PORTLAND, OR. 79'-0"Ø X 57'-0" API			
1"Ø THERMOMETER (H)		SH.# 36DF50	2380-PD-6158 DWG #: 23800136

REV	ZN	DESCRIPTION	U	DATE	BY	CHK
REVISIONS						

Koppers001165

VDB5178 13-4757

NOTES:  
UNLESS NOTED OTHERWISE  
1. WELD SIZES SHALL EQUAL THICKNESS  
OF THINNER MEMBER JOINED.  
2. SEE SHEET #1 FOR GENERAL NOTES.  
3. SEE SHEET #1 FOR COATING

REVIEWED BY  
R.J. ROBERTS, INC.

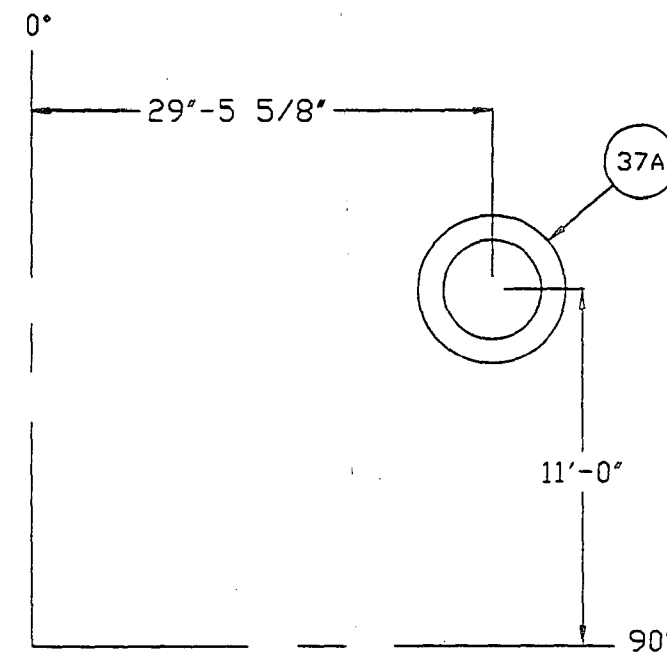
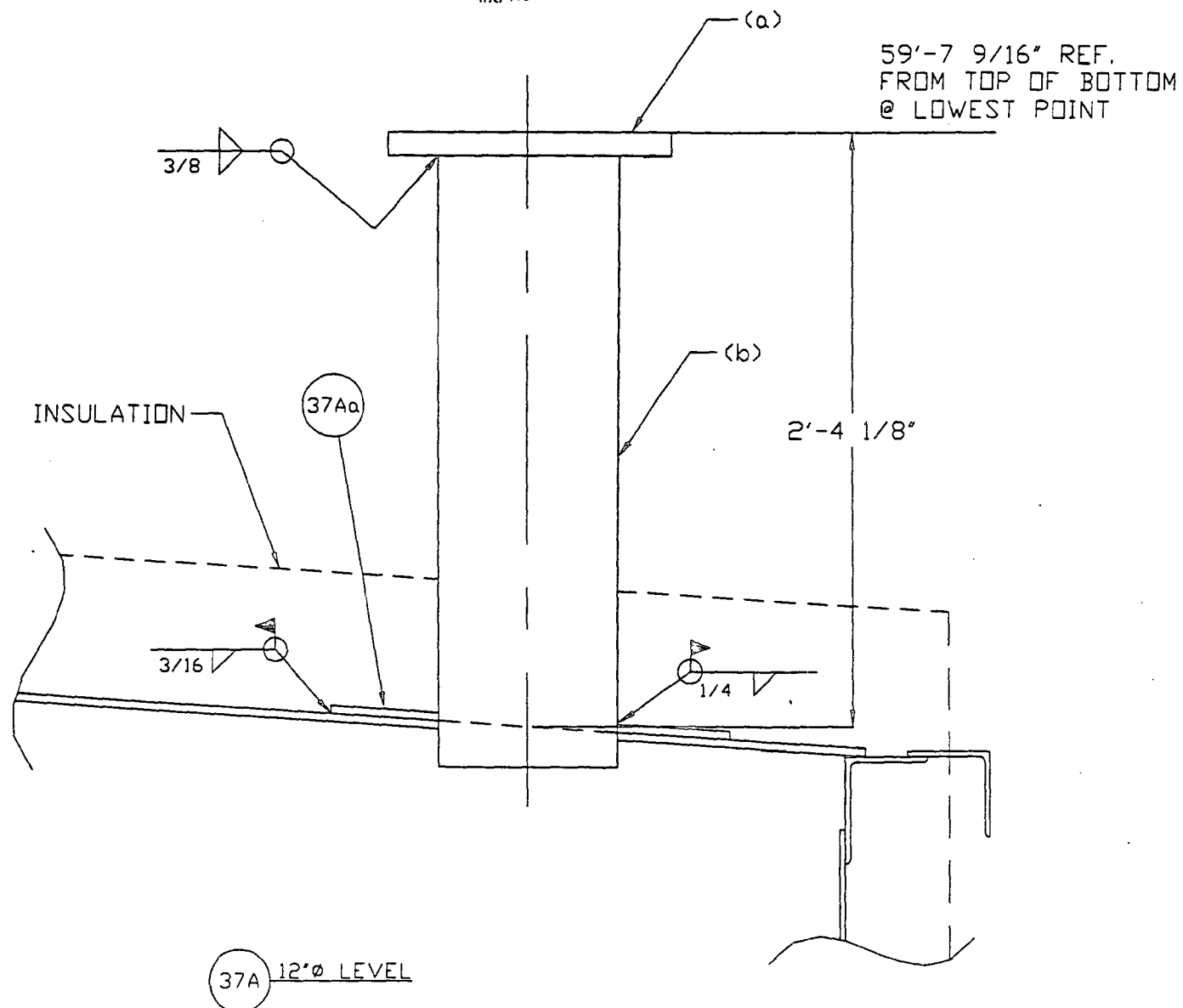
1. ☒ No Exception Taken.  
2. ☐ Exceptions As Noted.  
3. ☐ Revise As Noted and Resubmit.

All action shown above is subject to the terms of the contract/  
purchase order and does not relieve contractor/seller from any of  
his obligations under the contract/purchase order, including design  
and detailing.

By J. A. [Signature] Date 3/17/99  
Int. No. \_\_\_\_\_

## BILL OF MATERIALS

# TO SHIP	SHIP MARK	# OF PCS.	ASSY MARK	DESCRIPTION	REMARKS	MATL'S	WT. (Lb.)
1	37A			12"Ø LEVEL			
		1	a	PIPE 12"Ø STD X 2'-6"		A53B	124
		1	b	RFSO 12"Ø 150#		A105	61
1	37Aa			PL 3/16" X 2'-3"Ø X 1'-0 7/8" ID		A36	24



PLAN

## MORSE CONSTRUCTION GROUP, INC.

5500 SOUTH FIRST AVE. EVERETT, WA. 98203 (206) 258-2731  
FAX (206) 259-6355

SCALE: N.T.S. APPROVED BY: [Signature] DRAWN BY: WDB

DATE: 01-21-99 UNLESS OTHERWISE SPECIFIED  
DIMENSIONS ARE IN INCHES PS-FAC: 8

KOPPERS IND., PORTLAND, OR.  
79'-0"Ø X 57'-0" API

12"Ø LEVEL (S) SH.# 2380-PD-6158  
37OF 50 DWG #: 23800137

REV	ZN	DESCRIPTION	U	DATE	BY	CHK
REVISIONS						

Koppers001166

NOTES:  
UNLESS NOTED OTHERWISE  
1. WELD SIZES SHALL EQUAL THICKNESS  
OF THINNER MEMBER JOINED.  
2. SEE SHEET #1 FOR GENERAL NOTES.  
3. SEE SHEET #1 FOR COATING

REVIEWED BY  
R.J. ROBERTS, INC.

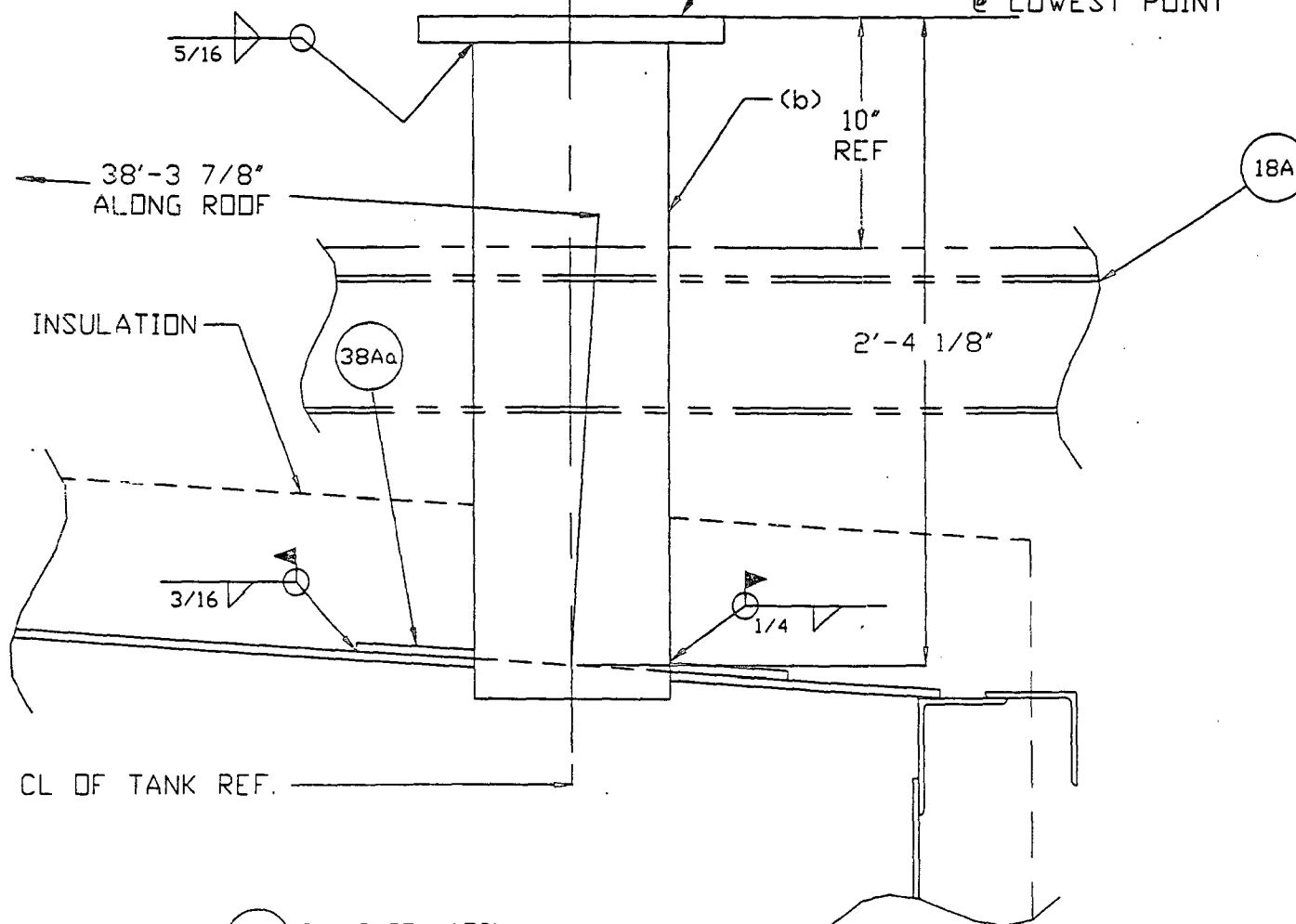
1. ☒ No Exception Taken.  
2. ☐ Exceptions As Noted.  
3. ☐ Revise As Noted and Resubmit

All action shown above is subject to the terms of the contract/  
purchase order and does not relieve contractor/seller from any of  
his obligations under the contract/purchase order, including design  
and detailing.

By J. Roberts Date 5/17/99

Job No. \_\_\_\_\_

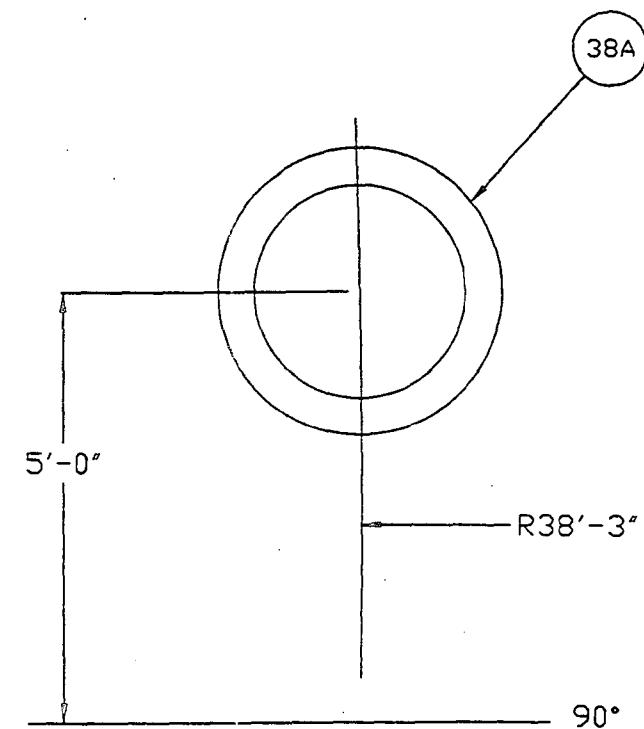
59'-7 9/16" REF.  
FROM TOP OF BOTTOM  
@ LOWEST POINT



38A 8"Ø GAGE HATCH

## BILL OF MATERIALS

# TO SHIP	SHIP MARK	# OF PCS.	ASSY MARK	DESCRIPTION	REMARKS	MATL'S	WT. (LB.)
1	38A			8"Ø GAGE HATCH			
		1	a	PIPE 8"Ø STD X 2'-6"		A53B	57
		1	b	RFSO 8"Ø 150#		A105	28
1	38Aa			PL 3/16 X 1'-7"Ø X 0'-8 3/4" ID		A36	12



PLAN

## MORSE CONSTRUCTION GROUP, INC.

5500 SOUTH FIRST AVE. EVERETT, WA. 98203 (206) 258-2731  
FAX (206) 259-6355

SCALE: N.T.S. APPROVED BY: WDB DRAWN BY: WDB

DATE: 01-21-99 UNLESS OTHERWISE SPECIFIED  
DIMENSIONS ARE IN INCHES PS-FAC: 8

KOPPERS IND., PORTLAND, OR.  
79'-0"Ø X 57'-0" API

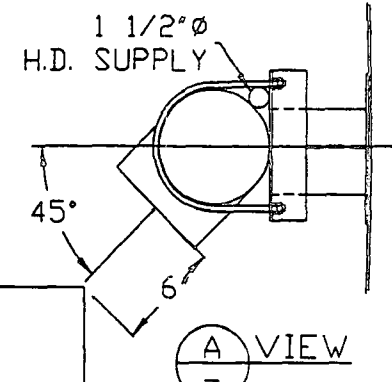
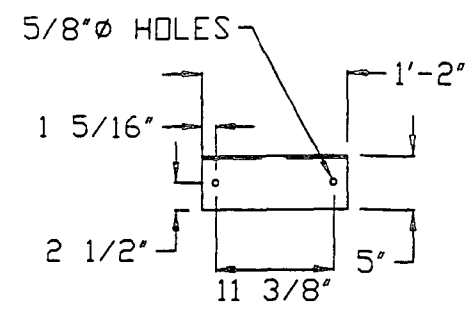
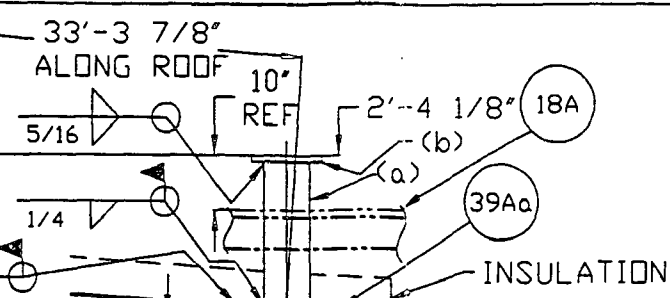
8"Ø GAGE HATCH (T) SH.# 2380-PO-6158  
380F50 DWG #: 23800138

REV	ZN	DESCRIPTION	U	DATE	BY	CHK
REVISIONS						

Koppers001167

NOTES:  
UNLESS NOTED OTHERWISE  
1. WELD SIZES SHALL EQUAL THICKNESS  
OF THINNER MEMBER JOINED.  
2. SEE SHEET #1 FOR GENERAL NOTES.  
3. SEE SHEET #1 FOR COATING

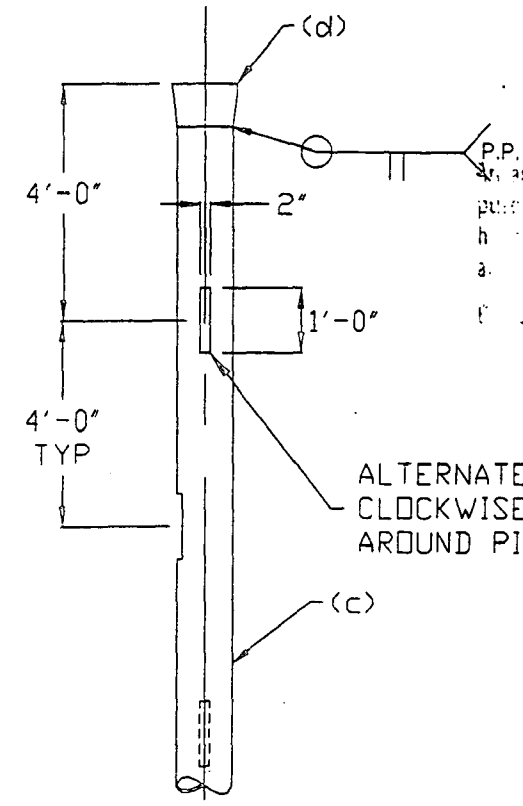
59'-7 9/16" REF.  
FROM TOP OF BOTTOM  
@ LOWEST POINT



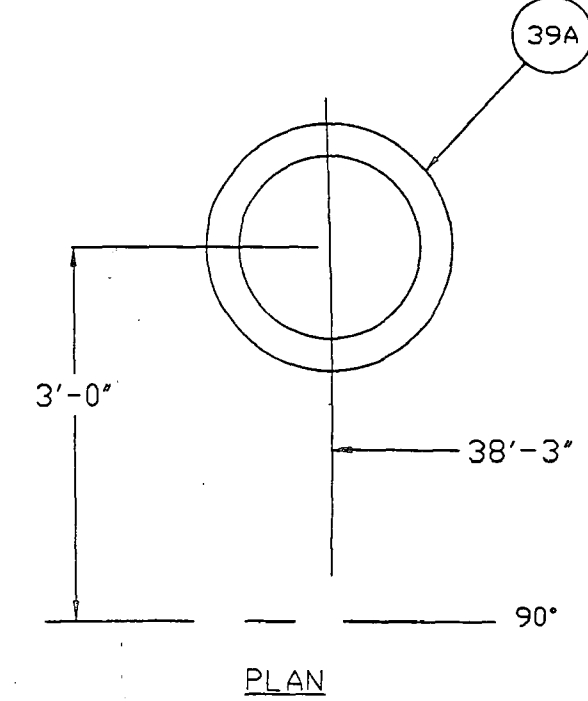
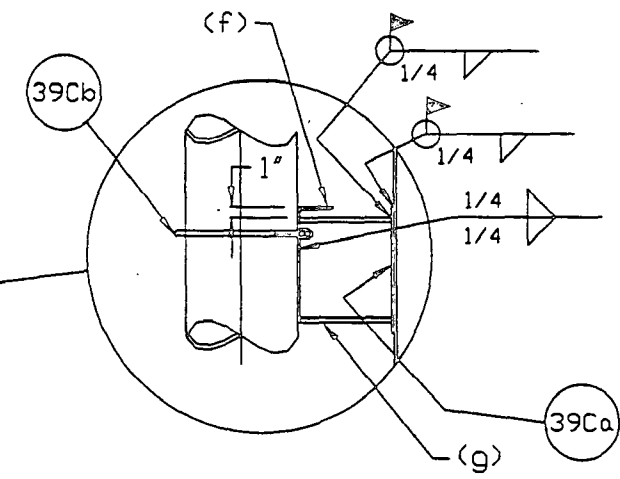
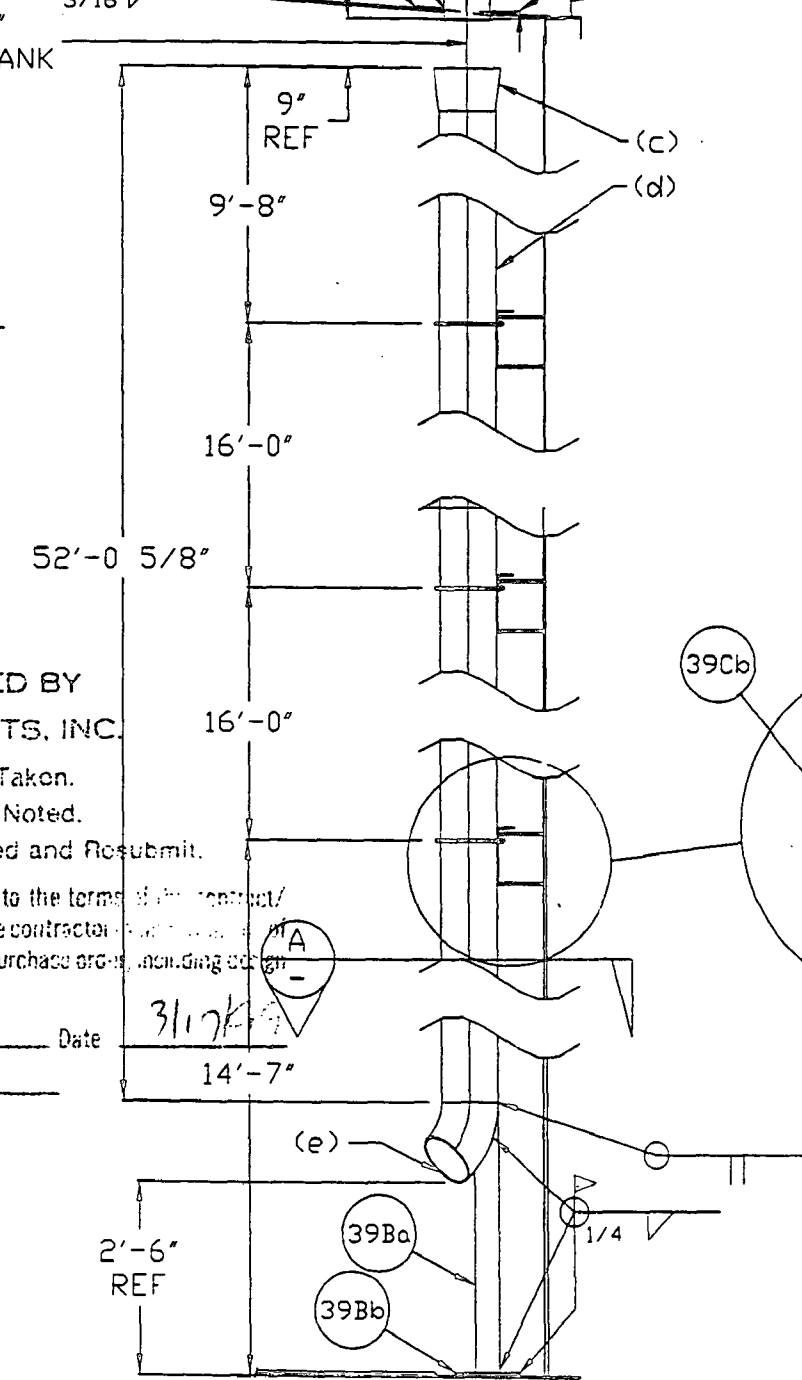
REVIEWED BY  
R.J. ROBERTS, INC.

- 1. ☒ No Exception Taken.
- 2. ☐ Exceptions As Noted.
- 3. ☐ Issues As Noted and Resubmit.

Signature: *Jaf*  
Date: 3/17/99



ALTERNATE SLOTS 90°  
CLOCKWISE EVERY 4'-0"  
AROUND PIPE. (12) PLCS.



BILL OF MATERIALS						
# TO SHIP	SHIP MARK	# OF PCS.	ASSY MARK	DESCRIPTION	REMARKS	MATL'S WT. (Lb.)
1	39A			8"Ø INLET		
		1	a	PIPE 8"Ø XH X 2'-5 3/4"		A53B 105
		1	b	RFSØ 8"Ø 150#		A105 42
1	39Aa			PL 3/16 X 1'-7"Ø X 0'-8 3/4" ID		A36 19
1	39B			10"Ø DROP PIPE		
		1	c	PIPE 10"Ø STD X 51'-4 5/8"	W/SLOTS	A53B 2079
		1	d	CON. REDUCER 12"Ø X 10"Ø STD.		A234 34
		1	e	ELL 10"Ø STD. LR 45°		A234 43
1	39Ba			PL 1/2 X 1'-0" X 1'-0"		A36 20
1	39Ba			PIPE 4"Ø STD X 4'-0"		A53B 44
1	39C			MOUNTING BRKT.		
		3	f	L5 X 3 1/2 X 1/4 X 1'-2"	W/HOLES	A36 24
		3	g	W10 X 33# X 0'-10"		A36 83
3	39Ca			PL 1/4 X 1'-0" X 1'-2"		A36 36
3	39Cb			"U" BOLT FOR A 10"Ø PIPE W/ (2) DOUBLE NUTS		A307 8
1	39D			PL 1/2 X 4'-0" X 4'-0"		A36 327

**MORSE CONSTRUCTION GROUP, INC.**  
5500 SOUTH FIRST AVE. EVERETT, WA. 98203  
(206) 258-2731 FAX (206) 259-6355

SCALE: N.T.S. APPROVED BY: *U* DRAWN BY: WDB  
DATE: 01-20-99 UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES PS-FAC: 38

KOPPERS IND., PORTLAND, OR.  
79'-0"Ø X 57'-0" API

SH.# 2380-PD-6158  
390F50 DWG #: 23800139

REV	ZN	DESCRIPTION	U	DATE	BY	CHK
REVISIONS						
3						
2						
1						

Koppers001168

NOTES:  
UNLESS NOTED OTHERWISE  
1. WELD SIZES SHALL EQUAL THICKNESS  
OF THINNER MEMBER JOINED.  
2. SEE SHEET #1 FOR GENERAL NOTES.  
3. SEE SHEET #1 FOR COATING

REVIEWED BY  
R.J. ROBERTS, INC.

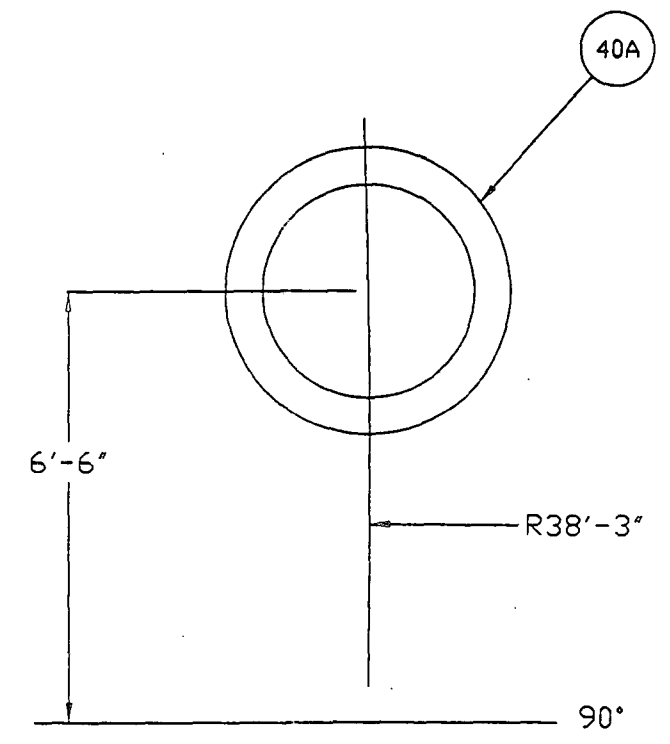
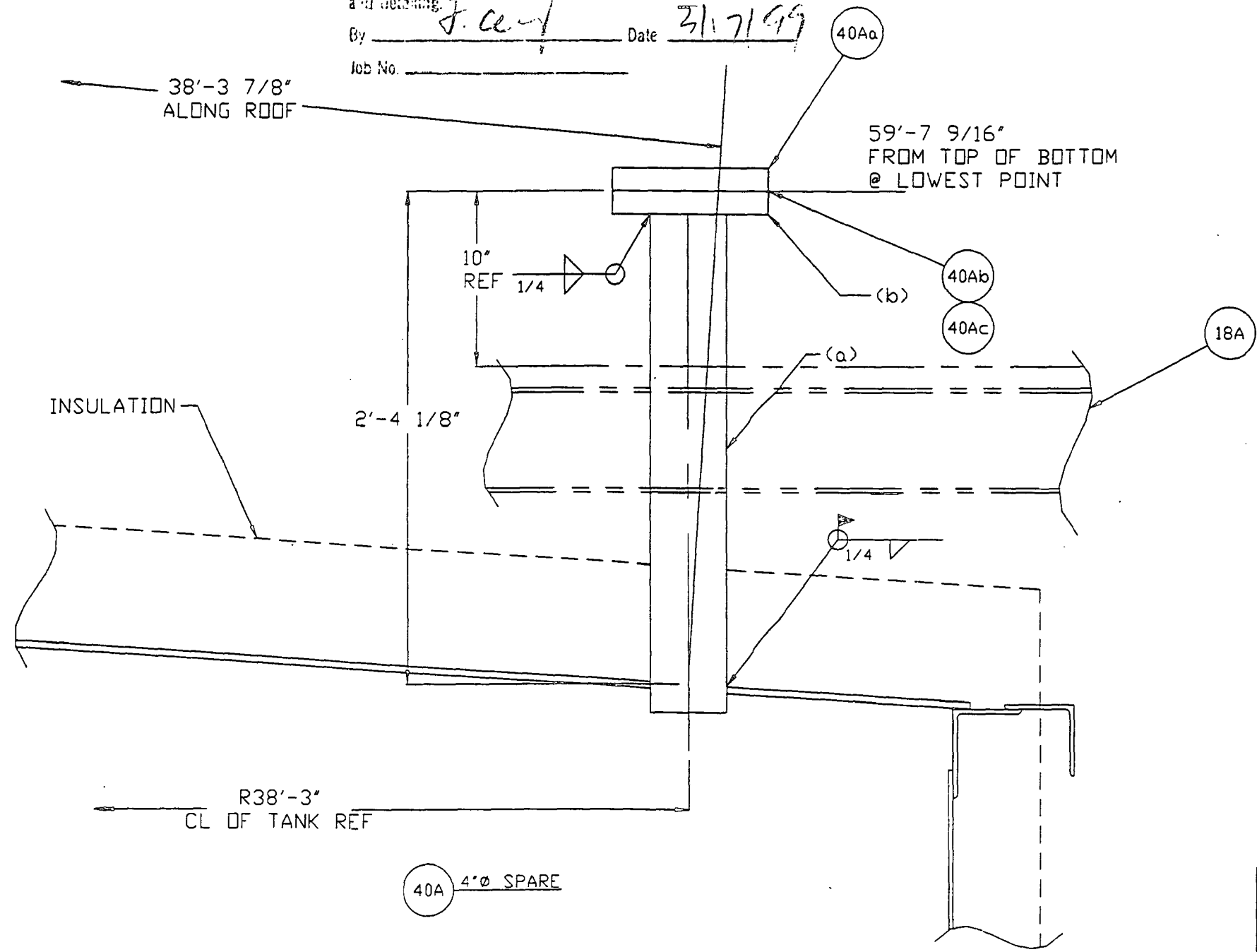
1. ☒ No Exception Taken.  
2. ☐ Exceptions As Noted.  
3. ☐ Revise As Noted and Resubmit.

An action shown above is subject to the terms of the contract/  
purchase order and does not relieve contractor from any of  
his obligations under the contract/purchase order, including design  
and detailing.

By J. Ce Date 3/17/99  
Job No. \_\_\_\_\_

BILL OF MATERIALS						
# TO SHIP	SHIP MARK	# OF PCS.	ASSY MARK	DESCRIPTION	REMARKS	MAT'L'S WT. (Lb.)
1	40A			4"Ø SPARE		
		1	a	PIPE 4"Ø STD X 2'-6"		A53B 27
		1	b	RFSO 4"Ø 150#		A105 13
1	40Aa			BLIND FLANGE 4"Ø 150#		A105 17
1	40Ab			GASKET 1/8" FOR 4"Ø RFSO 150#	FLEX*	
8	40Ac			BOLT 5/8"Ø X 0'-3 1/2" W/ NUT	PLATED	A307 4

FLEX\* = FLEXATALIC STYLE CG



PLAN

MORSE CONSTRUCTION GROUP, INC.			
5500 SOUTH FIRST AVE. EVERETT, WA. 98203			
(206) 258-2731		FAX (206) 259-6355	
SCALE: N.T.S.	APPROVED BY: <u>KC</u>	DRAWN BY: WDB	
DATE: 01-20-99	UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES		PS-FAC: 8
KOPPERS IND., PORTLAND, OR.			
79'-0"Ø X 57'-0" API			
4"Ø SPARE (M)		SH.# 2380-PD-6158	DWG #: 23800140

REV	ZN	DESCRIPTION	U	DATE	BY	CHK
REVISIONS						
3						
2						
1						

Koppers001169

NOTES:  
UNLESS NOTED OTHERWISE  
1. WELD SIZES SHALL EQUAL THICKNESS  
OF THINNER MEMBER JOINED.  
2. SEE SHEET #1 FOR GENERAL NOTES.  
3. SEE SHEET #1 FOR COATING

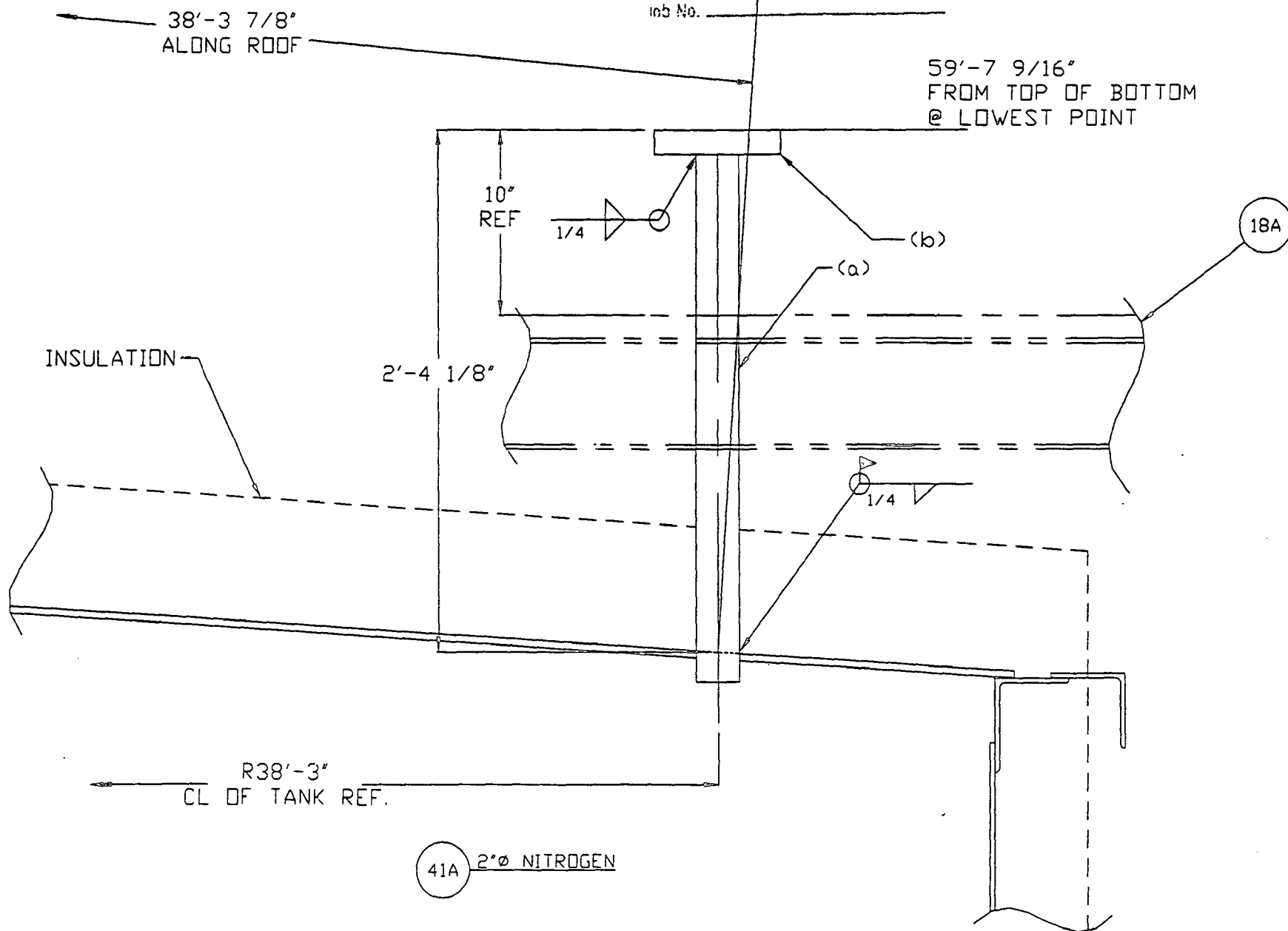
REVIEWED BY  
R.J. ROBERTS, INC.

1. ☒ No Exception Taken.  
2. ☐ Exceptions As Noted.  
3. ☐ Revise As Noted and Resubmit

An action shown above is subject to the terms of the contract/  
purchase order and does not relieve contractor / seller from any of  
his obligations under the contract/purchase order, including design  
and detailing.

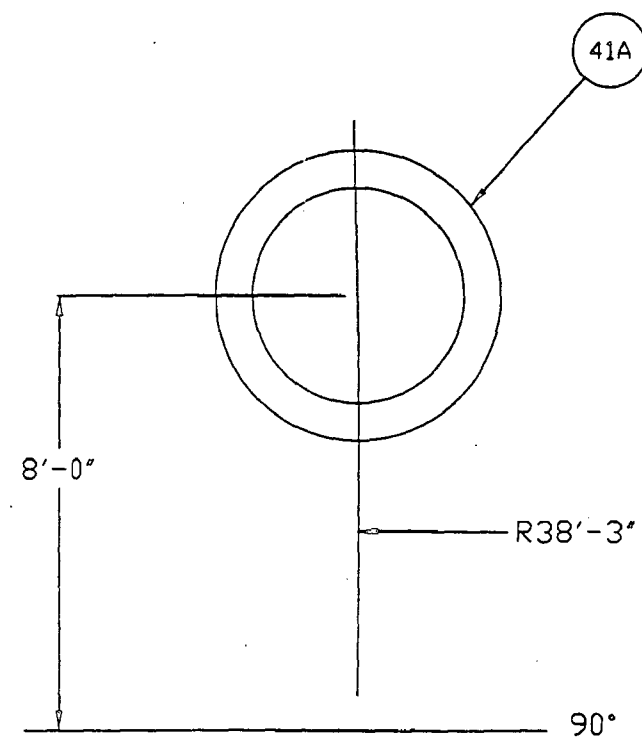
By [Signature] Date 2/2/99

Job No. \_\_\_\_\_



# BILL OF MATERIALS

# TO SHIP	SHIP MARK	# OF PCS.	ASSY MARK	DESCRIPTION	REMARKS	MATL'S	WT. (Lb.)
1	41A			2" NITROGEN			
		1	a	PIPE 2" STD X 2'-6"		A53B	8
		1	b	RFSD 2" 150#		A105	5



PLAN

**MORSE CONSTRUCTION GROUP, INC.**  
5500 SOUTH FIRST AVE. EVERETT, WA. 98203 (206) 258-2731  
FAX (206) 259-6355

SCALE: N.T.S. APPROVED BY: [Signature] DRAWN BY: WDB  
DATE: 01-21-99 UNLESS OTHERWISE SPECIFIED  
DIMENSIONS ARE IN INCHES PS-FAC: 8

KOPPERS IND., PORTLAND, OR.  
79'-0" X 57'-0" API

2" NITROGEN (P)

SH.# 2380-PD-6158  
41 OF 50 DWG #: 23800141

REV	ZN	DESCRIPTION	U	DATE	BY	CHK
REVISIONS						

Koppers001170

NOTES:  
UNLESS NOTED OTHERWISE  
1. WELD SIZES SHALL EQUAL THICKNESS  
OF THINNER MEMBER JOINED.  
2. SEE SHEET #1 FOR GENERAL NOTES.  
3. SEE SHEET #1 FOR COATING

REVIEWED BY  
R.J. ROBERTS, INC.

1. ☒ No Exception Taken.  
2. ☐ Exceptions As Noted.  
3. ☐ Revise As Noted and Resubmit

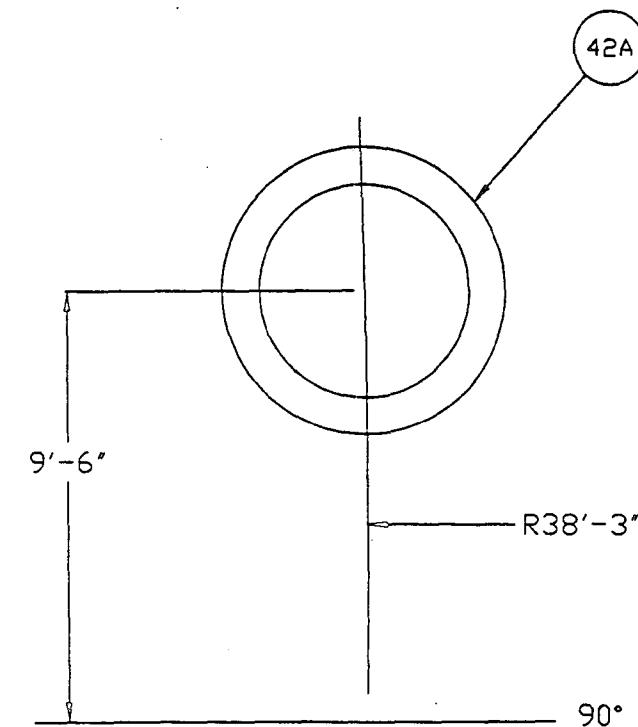
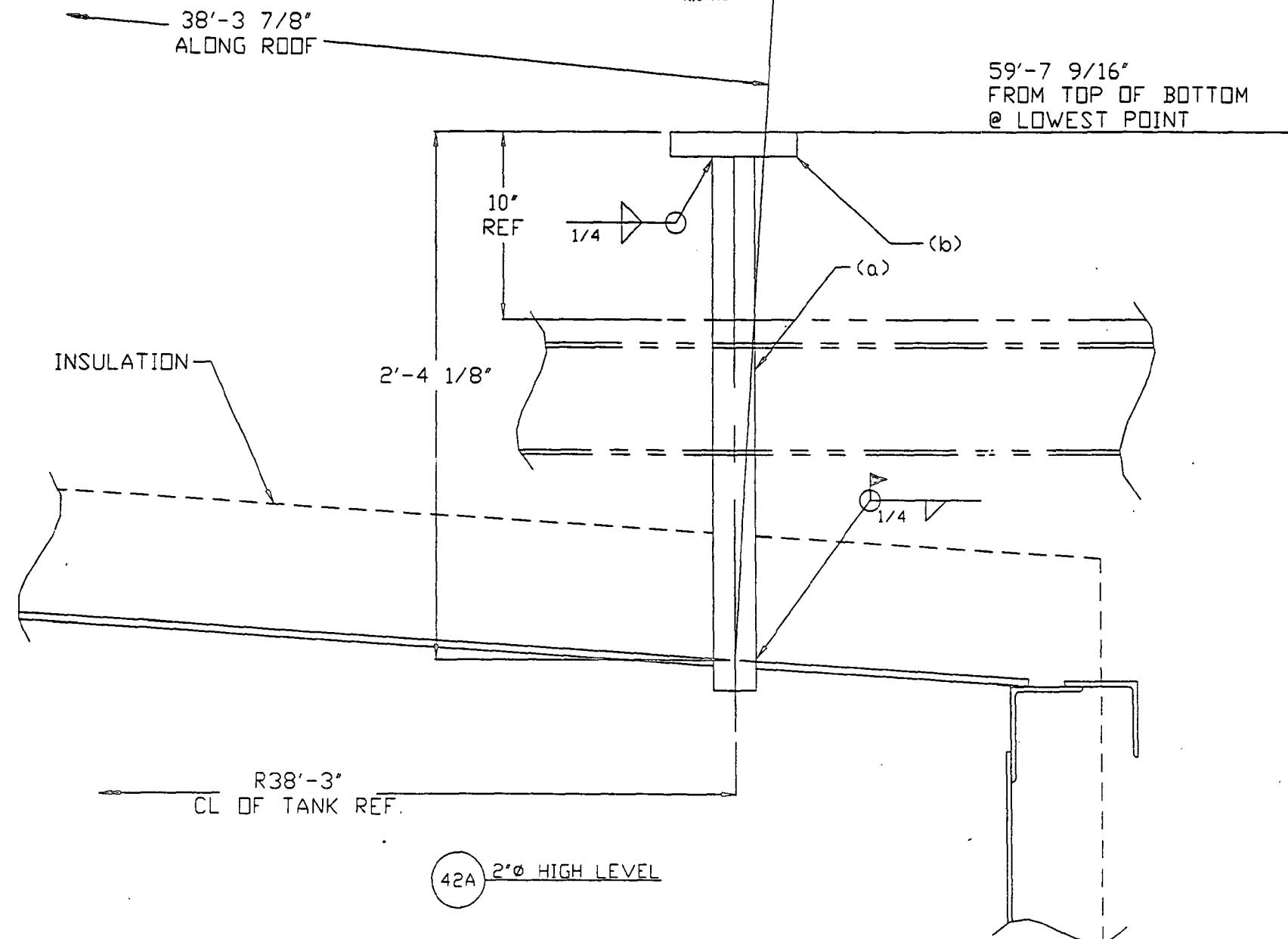
An action shown above is subject to the terms of the contract/  
purchase order and does not relieve contractor/seller from any of  
his obligations under the contract/purchase order, including design  
and detailing.

By J.A. [Signature] Date 3/17/99

Job No. \_\_\_\_\_

# BILL OF MATERIALS

# TO SHIP	SHIP MARK	# OF PCS.	ASSY MARK	DESCRIPTION	REMARKS	MAT'L'S	WT. (LB.)
1	42A			2"Ø HIGH LEVEL			
		1	a	PIPE 2"Ø STD X 2'-6"		A53B	8
		1	b	RFSD 2"Ø 150#		A105	5



PLAN

MORSE CONSTRUCTION GROUP, INC.  
5500 SOUTH FIRST AVE. EVERETT, WA. 98203 (206) 258-2731  
FAX (206) 259-6355

SCALE: N.T.S. APPROVED BY: [Signature] DRAWN BY: WDB  
DATE: 01-21-99 UNLESS OTHERWISE SPECIFIED  
DIMENSIONS ARE IN INCHES PS-FAC: 8

KOPPERS IND., PORTLAND, OR.  
79'-0"Ø X 57'-0" API

2"Ø HIGH LEVEL (R) SH.# 2380-PD-6158  
42DF50 DWG #: 23800142

REV	ZN	DESCRIPTION	U	DATE	BY	CHK
REVISIONS						

Koppers001171



NOTES:  
UNLESS NOTED OTHERWISE  
1. WELD SIZES SHALL EQUAL THICKNESS  
OF THINNER MEMBER JOINED.  
2. SEE SHEET #1 FOR GENERAL NOTES.  
3. SEE SHEET #1 FOR COATING

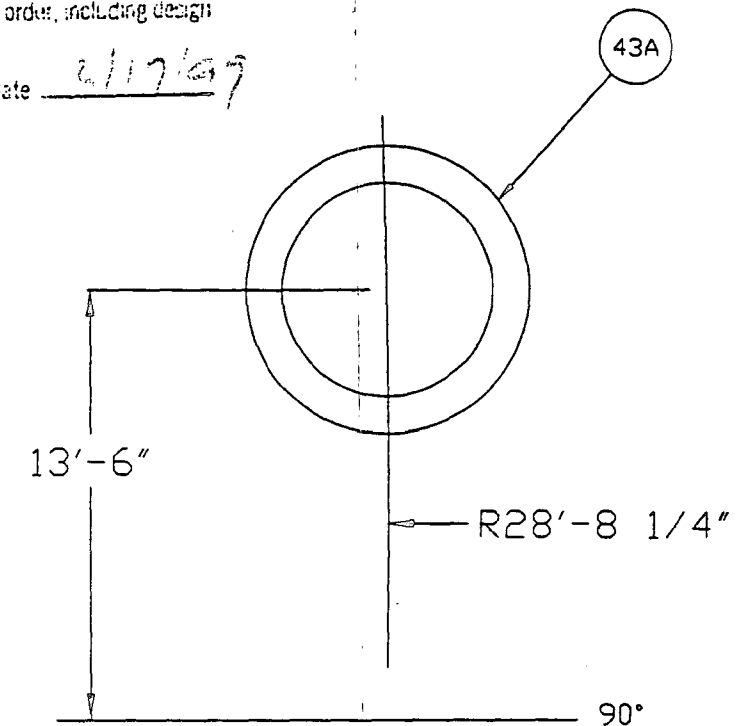
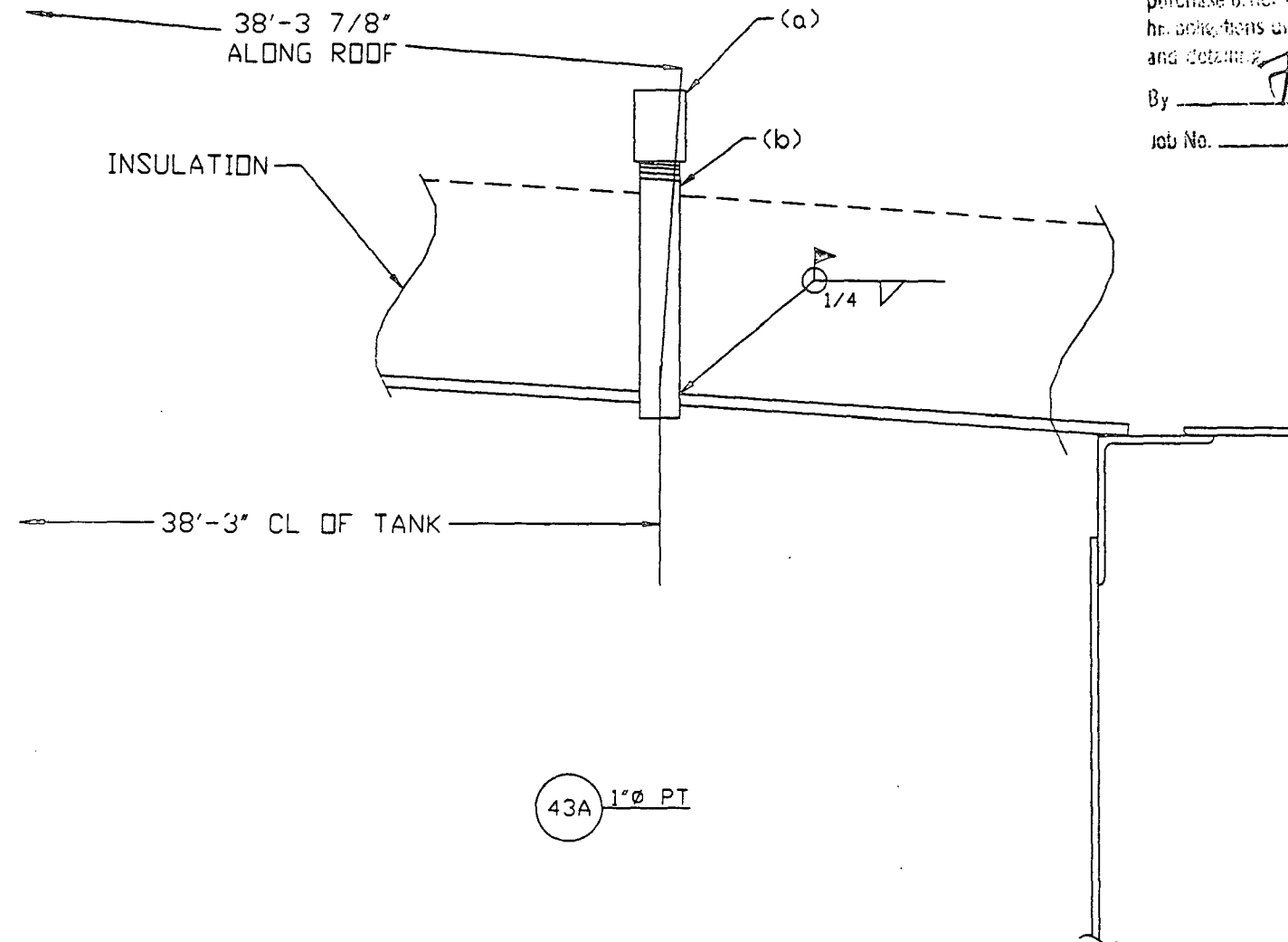
BILL OF MATERIALS						
# TO SHIP	SHIP MARK	# OF PCS.	ASSY MARK	DESCRIPTION	REMARKS	MATL'S W.T. (Lb.)
1	43A			1"Ø PT		
		1	a	FULL COUPLING 1"Ø 3000#	THRD	A105 2
		1	b	PIPE 1"Ø STD X 8'	THRDIE	A53B 2

REVIEWED BY  
R.J. ROBERTS, INC.

1. ☒ No Exception Taken.  
2. ☐ Exceptions As Noted.  
3. ☐ Revise As Noted and Resubmit.

All action shown above is subject to the terms of the contract/  
purchase order and does not relieve contractor/seller from any of  
his obligations under the contract/purchase order, including design  
and detailing.

By J. Roberts Date 2/17/97  
Job No. \_\_\_\_\_



PLAN

<b>MORSE CONSTRUCTION GROUP, INC.</b>			
5500 SOUTH FIRST AVE. EVERETT, WA. 98203 (206) 258-2731 FAX (206) 259-6355			
SCALE: N.T.S.	APPROVED BY: <u>WDB</u>	DRAWN BY: WDB	
DATE: 01-21-99	UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES		PS-FAC: 6
KOPPERS IND., PORTLAND, OR. 79'-0"Ø X 57'-0" API			
1"Ø PT (W)		SH.# 430F50	2380-PD-6158 DWG #: 23800143

REV	ZN	DESCRIPTION	U	DATE	BY	CHK
REVISIONS						
3						
2						
1						

Koppers001172

NOTES:  
UNLESS NOTED OTHERWISE  
1. WELD SIZES SHALL EQUAL THICKNESS  
OF THINNER MEMBER JOINED.  
2. SEE SHEET #1 FOR GENERAL NOTES.  
3. SEE SHEET #1 FOR COATING

PRESSURE RELIEF  
BY OTHERS

MACHINE FLANGE  
(3/8" MIN.)

59'-7 9/16" REF.  
FROM TOP OF BOTTOM  
@ LOWEST POINT

38'-3 7/8"  
ALONG ROOF

INSULATION

GRIND SHARP EDGES

2'-0" Ø I.D.  
2'-0 5/8" Ø  
ROOF OPENING

REF. 38'-3" RAD.  
TO CL OF TANK

SECTION

CUSTOMER PLEASE  
VERIFY MANHOLE.

(20) 3/4" Ø HOLES  
ON 2'-3 1/2" Ø B.C.

44A 24" Ø ROOF MANHOLE/EMERG. PRESS. RELIEF.

## BILL OF MATERIALS

# TO SHIP	SHIP MARK	# OF PCS.	ASSY MARK	DESCRIPTION	REMARKS	MAT'L SVT. (LB.)
1	44A			24" Ø ROOF MANHOLE/EMERG PRESS RELIEF		
		1	a	PL 1/4 X 2'-6" X 6'-4 3/16"	ROLL	A36 162
		1	b	PL 1/2 X 2'-6" Ø X 2'-0 1/2" I.D.		A36 34
1	44Ad			GASKET 1/16" X 2'-6" Ø X 2'-0 1/2"	W/HOLES	C4401 1
20	44Ab			BOLT 5/8" Ø X 1 1/2" W/NUT	PLTD	A307 5
1	44Ad			PL 3/8 X 3'-4 X 2'-11 9/16"	TEMP	A36 52

REVIEWED BY  
R.J. ROBERTS, INC.

- ☒ No Exception Taken.
- ☐ Exceptions As Noted.
- ☐ Revise As Noted and Resubmit.

An action shown above is subject to the terms of the contract/  
purchase order and does not relieve contractor of any of  
his obligations under the contract/purchase order, including design  
and detailing.

By [Signature] Date 3/17/99  
Job No. \_\_\_\_\_

R1'-0 5/16"  
R1'-8"

44Ad DETAIL

MORSE CONSTRUCTION GROUP, INC.

5500 SOUTH FIRST AVE. EVERETT, VA. 98203 (206) 258-2731  
FAX (206) 259-6355

SCALE: N.T.S. APPROVED BY: [Signature] DRAWN BY: WDB  
DATE: 01-20-99 UNLESS OTHERWISE SPECIFIED  
DIMENSIONS ARE IN INCHES PS-FAC: 12

KOPPERS IND., PORTLAND, OR.  
79'-0" Ø X 57'-0" API

24" Ø ROOF MANHOLE.  
EMERGENCY PRESS RELIEF. SH.# 2380-PO-6158  
44DF50 DWG #: 23800144

REV	ZN	DESCRIPTION	U	DATE	BY	CHK
		REVISIONS				

Koppers001173

WDB5178 1400:14

NOTES:  
UNLESS NOTED OTHERWISE  
1. WELD SIZES SHALL EQUAL THICKNESS  
OF THINNER MEMBER JOINED.  
2. SEE SHEET #1 FOR GENERAL NOTES.  
3. SEE SHEET #1 FOR COATING

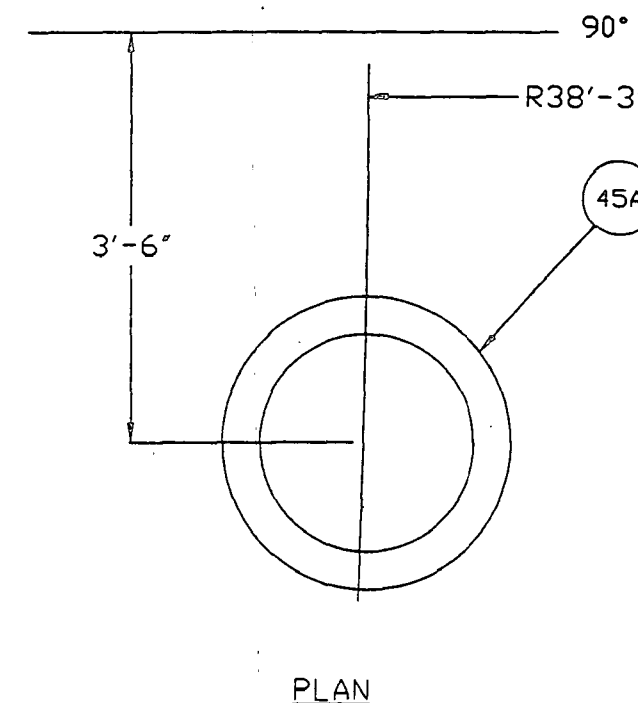
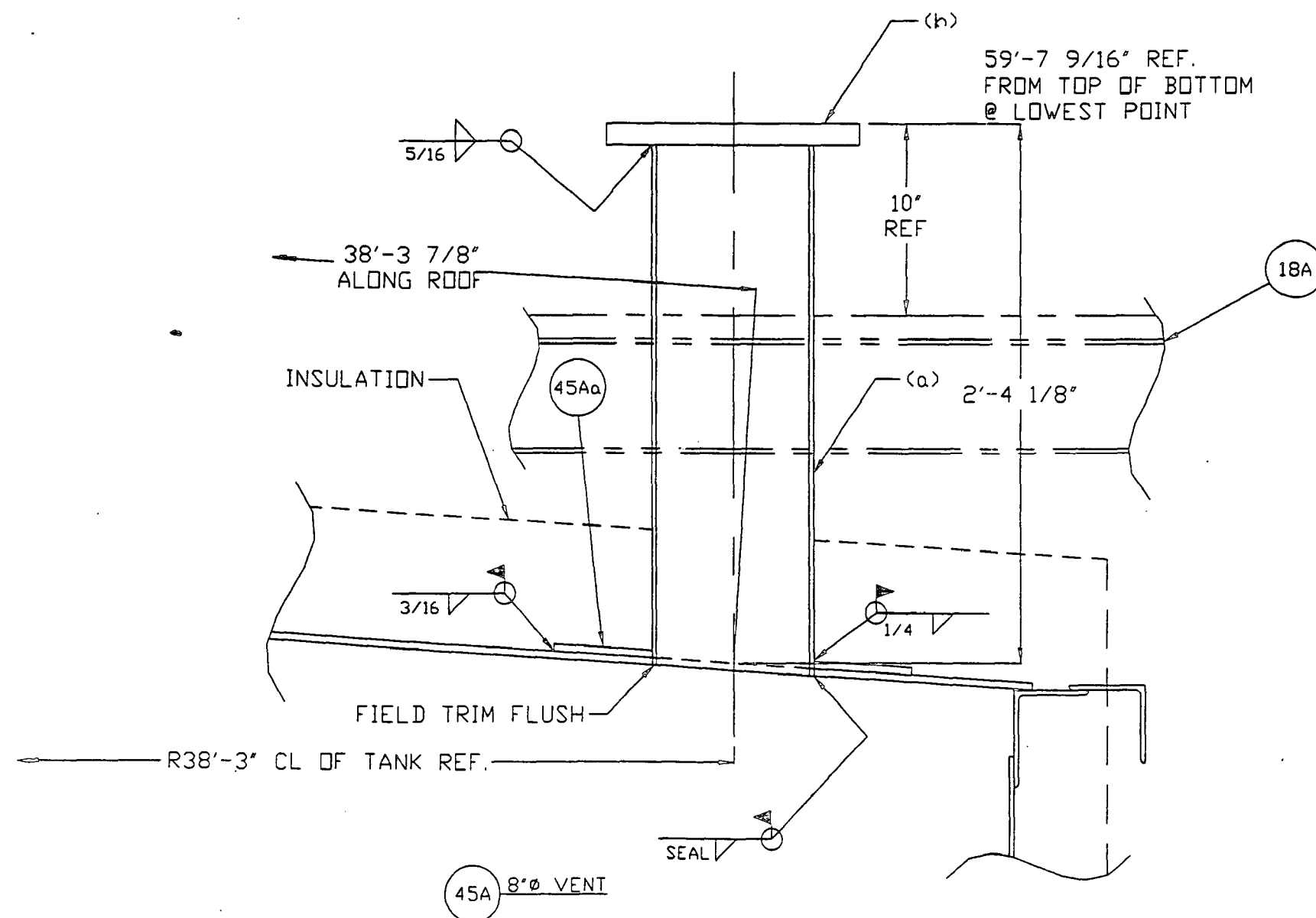
BILL OF MATERIALS						
# TO SHIP	SHIP MARK	# OF PCS.	ASSY MARK	DESCRIPTION	REMARKS	MATL'S WT. (LB)
1	45A			8"Ø VENT		
		1	Q	PIPE 8"Ø STD X 2'-5"		A53B 57
		1	b	RFSO 8"Ø 150#		A105 28
1	45Aa			PL 3/16" X 1'-7"Ø X 0'-8 3/4" ID		A36 23

REVIEWED BY  
R.J. ROBERTS, INC.

1. ☒ No Exception Taken.  
2. ☐ Exceptions As Noted.  
3. ☐ Revise As Noted and Resubmit.

An action shown above is subject to the terms of the contract/  
purchase order and does not relieve contractor/seller from any of  
his obligations under the contract/purchase order, including design  
and detailing.

By J. Roberts Date 3/17/99  
Job No. \_\_\_\_\_



MORSE CONSTRUCTION GROUP, INC.

5500 SOUTH FIRST AVE. EVERETT, WA. 98203 (206) 258-2731  
FAX (206) 259-6355

SCALE: N.T.S. APPROVED BY: UC DRAWN BY: WDB

DATE: 01-19-99 UNLESS OTHERWISE SPECIFIED  
DIMENSIONS ARE IN INCHES PS-FAC: 8

KOPPERS IND., PORTLAND, OR.  
79'-0"Ø X 57'-0" API

8"Ø VENT (B) SH.# 2380-PQ-6158  
450F50 DWG #: 23800145

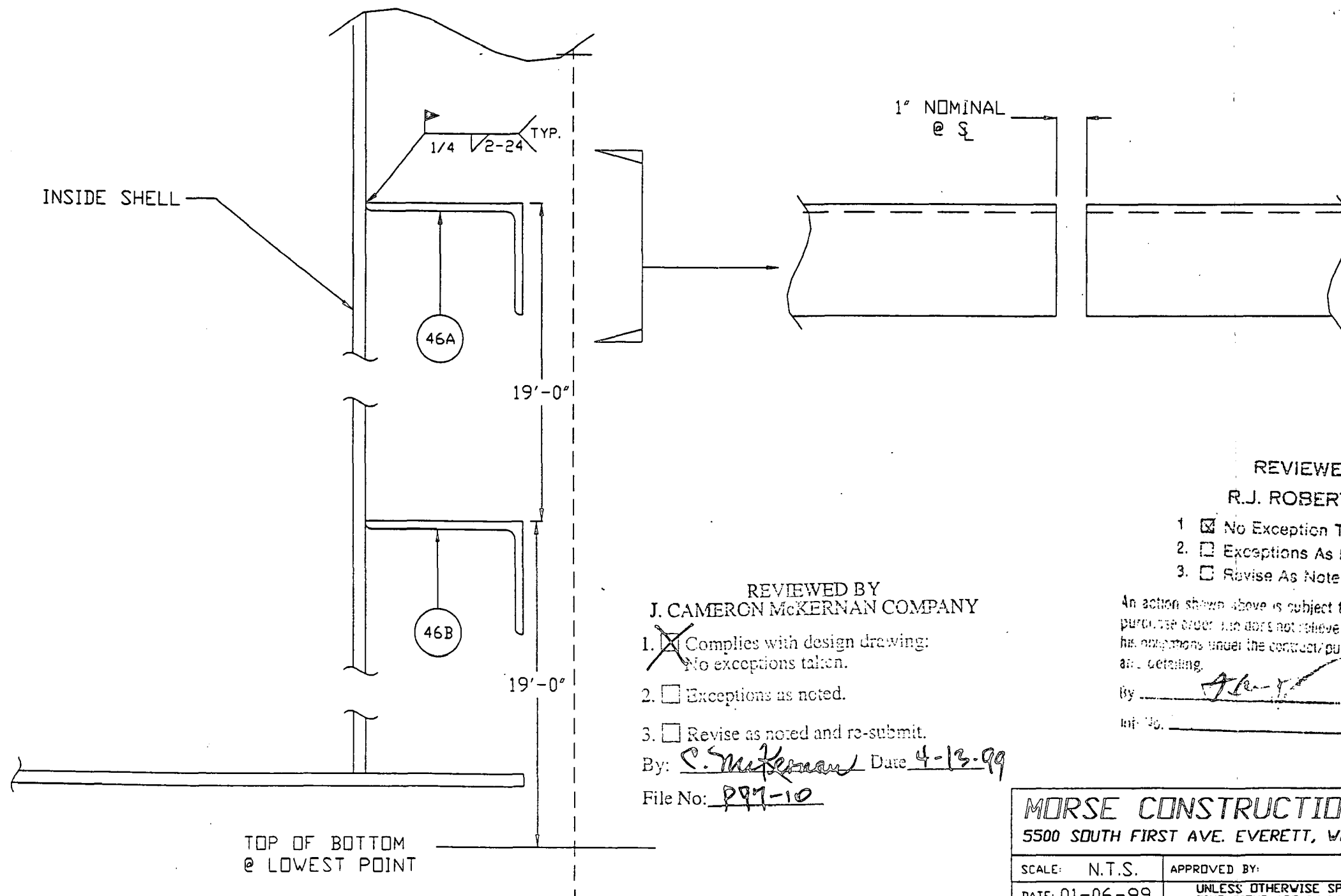
REV	ZN	DESCRIPTION	U	DATE	BY	CHK
REVISIONS						

Koppers001174

NOTES:  
UNLESS NOTED OTHERWISE  
1. WELD SIZES SHALL EQUAL THICKNESS  
OF THINNER MEMBER JOINED.  
2. SEE SHEET #1 FOR GENERAL NOTES.  
3. SEE SHEET #1 FOR COATING

BILL OF MATERIALS							
# TO SHIP	SHIP MARK	# OF PCS.	ASSY MARK	DESCRIPTION	REMARKS	MAT'L'S	WT. (Lb.)
14	46A			L5 X 3 1/2 X 1/4 X 20'-0"	ROLL#	A36	1960
14	46B			L5 X 3 1/2 X 1/4 X 20'-0"	ROLL#	A36	1960

ROLL# = HW LLH @ 39'-6" I.S.R.



REVIEWED BY  
J. CAMERON MCKERNAN COMPANY

- ☒ Complies with design drawing:  
No exceptions taken.
- ☐ Exceptions as noted.
- ☐ Revise as noted and re-submit.

By: C. McKernan Date 4-13-99  
File No: 897-10

REVIEWED BY  
R.J. ROBERTS, INC.

- ☒ No Exception Taken.
- ☐ Exceptions As Noted.
- ☐ Revise As Noted and Resubmit

An action shown above is subject to the terms of the contract/  
purchase order and does not relieve contractor/seller from any of  
his obligations under the contract/purchase order, including design  
and detailing.

By: [Signature] Date 3/17/99  
Title: \_\_\_\_\_

<b>MORSE CONSTRUCTION GROUP, INC.</b>			
5500 SOUTH FIRST AVE. EVERETT, WA. 98203 (206) 258-2731 FAX (206) 259-6355			
SCALE: N.T.S.	APPROVED BY: <u>[Signature]</u>	DRAWN BY: WDB	
DATE: 01-06-99	UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES		PS-FAC: 4
KOPPERS IND., PORTLAND, OR. 79'-0"Ø X 57'-0" API			
INSULATION RINGS		SH.# 460F50	2380-PD-6158 DWG #: 23800146

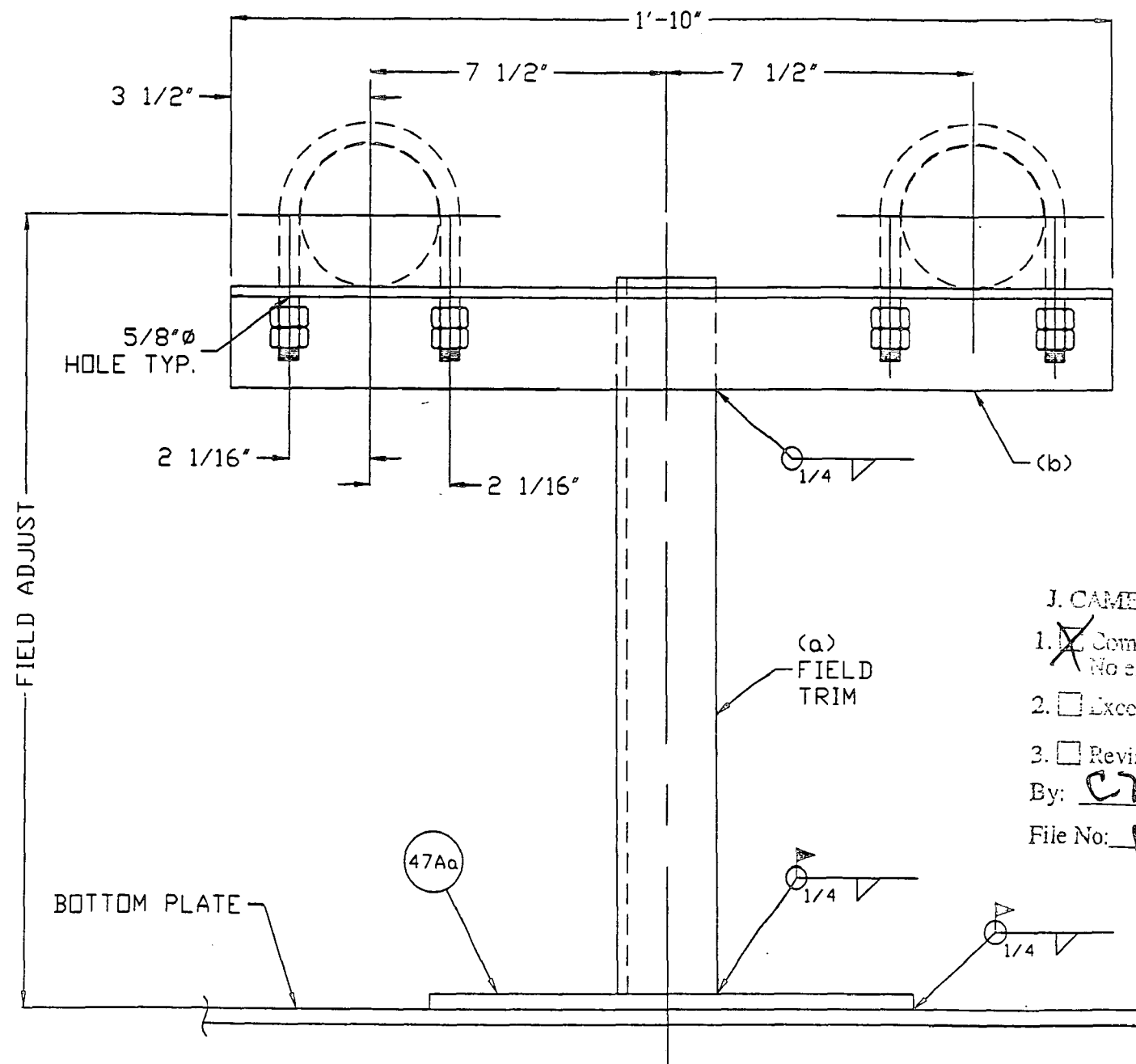
REV	ZN	DESCRIPTION	U	DATE	BY	CHK
REVISIONS						

Koppers001175

NOTES:  
UNLESS NOTED OTHERWISE  
1. WELD SIZES SHALL EQUAL THICKNESS  
OF THINNER MEMBER JOINED.  
2. SEE SHEET #1 FOR GENERAL NOTES.  
3. SEE SHEET #1 FOR COATING

# BILL OF MATERIALS

# TO SHIP	SHIP MARK	# OF PCS.	ASSY MARK	DESCRIPTION	REMARKS	MATL'S	WT. (Lb.)
3	47A			PIPE SUPPORT			
		3	a	L2 1/2 X 2 1/2 X 1/4 X 1'-6"	FIELD TRIM	A36	19
		3	b	L2 1/2 X 2 1/2 X 1/4 X 1'-10"	W/HOLES	A36	23
3	47Aa			PL 3/8 X 1'-0" X 1'-0"		A36	46



REVIEWED BY  
J. CAMERON McKERNAN COMPANY

1. ☒ Complies with design drawing:  
No exceptions taken.

2. ☐ Exceptions as noted.

3. ☐ Revise as noted and re-submit.

By: C McKernan Date 4-13-99

File No: P97-10

REVIEWED BY

R.J. ROBERTS, INC.

1. ☒ No Exception Taken.

2. ☐ Exceptions As Noted.

3. ☐ Revise As Noted and Resubmit.

An action shown above is subject to the terms of the contract/  
purchase order and does not relieve contractor/seller from any of  
his obligations under the contract/purchase order, including design  
and detailing.

By: J. Roberts Date 3/17/99

Job No. \_\_\_\_\_

47A PIPE SUPPORT  
(3) REQ'D

MORSE CONSTRUCTION GROUP, INC.

5500 SOUTH FIRST AVE. EVERETT, WA 98203

PH. 425-258-2731 E-MAIL MORSE@GREATNORTHERN.NET FAX 425-259-6355

SCALE: N.T.S. APPROVED BY: NC DRAWN BY: WDB

DATE: 1/21/99 UNLESS OTHERWISE SPECIFIED  
DIMENSIONS ARE IN INCHES PS-FAC: 4

KOPPERS IND., PORTLAND, OR.  
79'-0"Ø X 57'-0" API

PIPE SUPPORT SH.# 2380-PD-6158  
47DF50 DWG #:23800147

REV	ZN	DESCRIPTION	U	DATE	BY	CHK
REVISIONS						
3						
2						
1						

Koppers001176

NOTES:  
UNLESS NOTED OTHERWISE  
1. WELD SIZES SHALL EQUAL THICKNESS  
OF THINNER MEMBER JOINED.  
2. SEE SHEET #1 FOR GENERAL NOTES.  
3. SEE SHEET #1 FOR COATING

REVIEWED BY  
R.J. ROBERTS, INC.

- 1 ☒ No Exception Taken.  
2 ☐ Exceptions As Noted.  
3 ☐ Revise As Noted and Resubmit

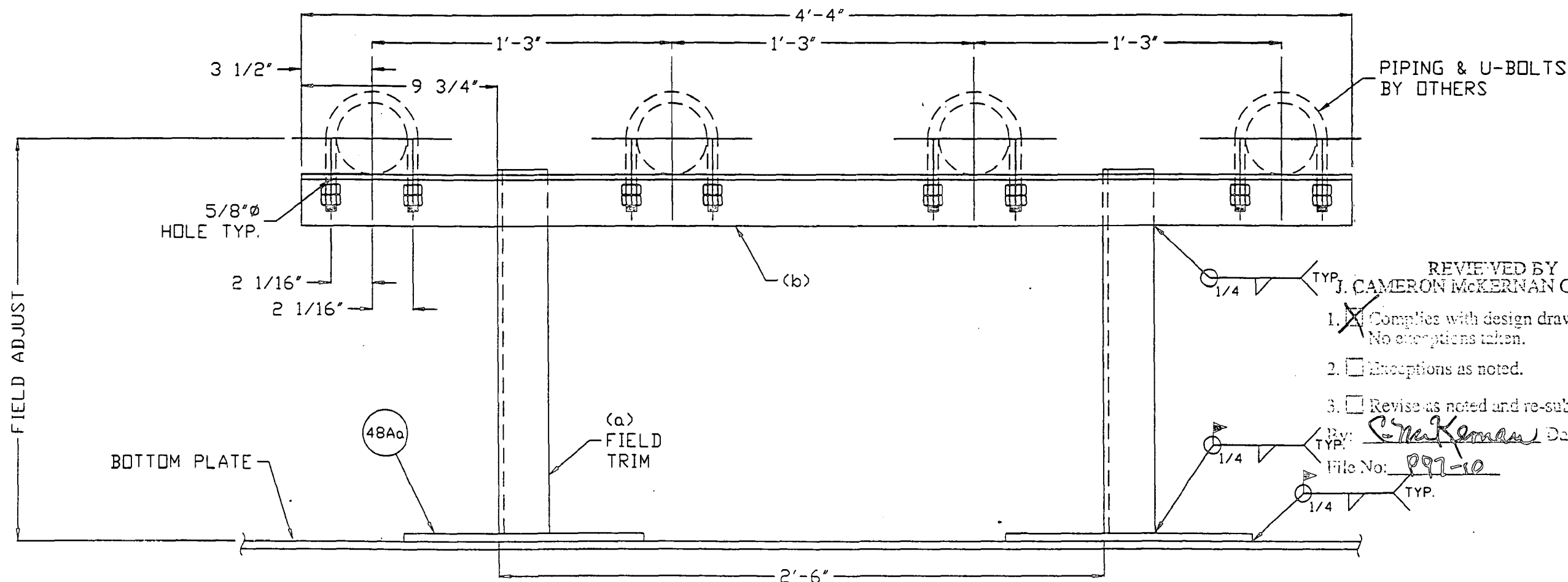
An action shown above is subject to the terms of the contract/  
purchase order and does not relieve contractor/seller from any of  
his obligations under the contract/purchase order, including design  
and detailing.

By F. A. R. Date 3/17/95

Job No. \_\_\_\_\_

## BILL OF MATERIALS

# TO SHIP	SHIP MARK	# OF PCS.	ASSY MARK	DESCRIPTION	REMARKS	MAT'L'S	WT. (Lb.)
3	48A			PIPE SUPPORT			
		6	a	L2 1/2 X 2 1/2 X 1/4 X 1'-6"	FIELD TRIM	A36	38
		3	b	L2 1/2 X 2 1/2 X 1/4 X 4'-4"	W/HOLES	A36	53
3	48Aa			PL 3/8 X 1'-0" X 1'-0"		A36	92



REVIEWED BY  
J. CAMERON McKERNAN COMPANY

- 1 ☒ Complies with design drawing:  
No exceptions taken.  
2 ☐ Exceptions as noted.  
3 ☐ Revise as noted and re-submit.

Rev: J. Cameron Date 4-13-99

File No: 897-10

TYP.

48A PIPE SUPPORT  
(3) REQ'D

MORSE CONSTRUCTION GROUP, INC.

5500 SOUTH FIRST AVE. EVERETT, WA 98203

PH. 425-258-2731 E-MAIL MORSE@GREATNORTHERN.NET FAX 425-259-6355

SCALE: N.T.S. APPROVED BY: N/C DRAWN BY: WDB

DATE: 1/21/99 UNLESS OTHERWISE SPECIFIED  
DIMENSIONS ARE IN INCHES PS-FAC: 6

KOPPERS IND., PORTLAND, OR.

79'-0"Ø X 57'-0" API

REV ZN DESCRIPTION U DATE BY CHK

REVISIONS

PIPE SUPPORT

SH.# 2380-PD-6158

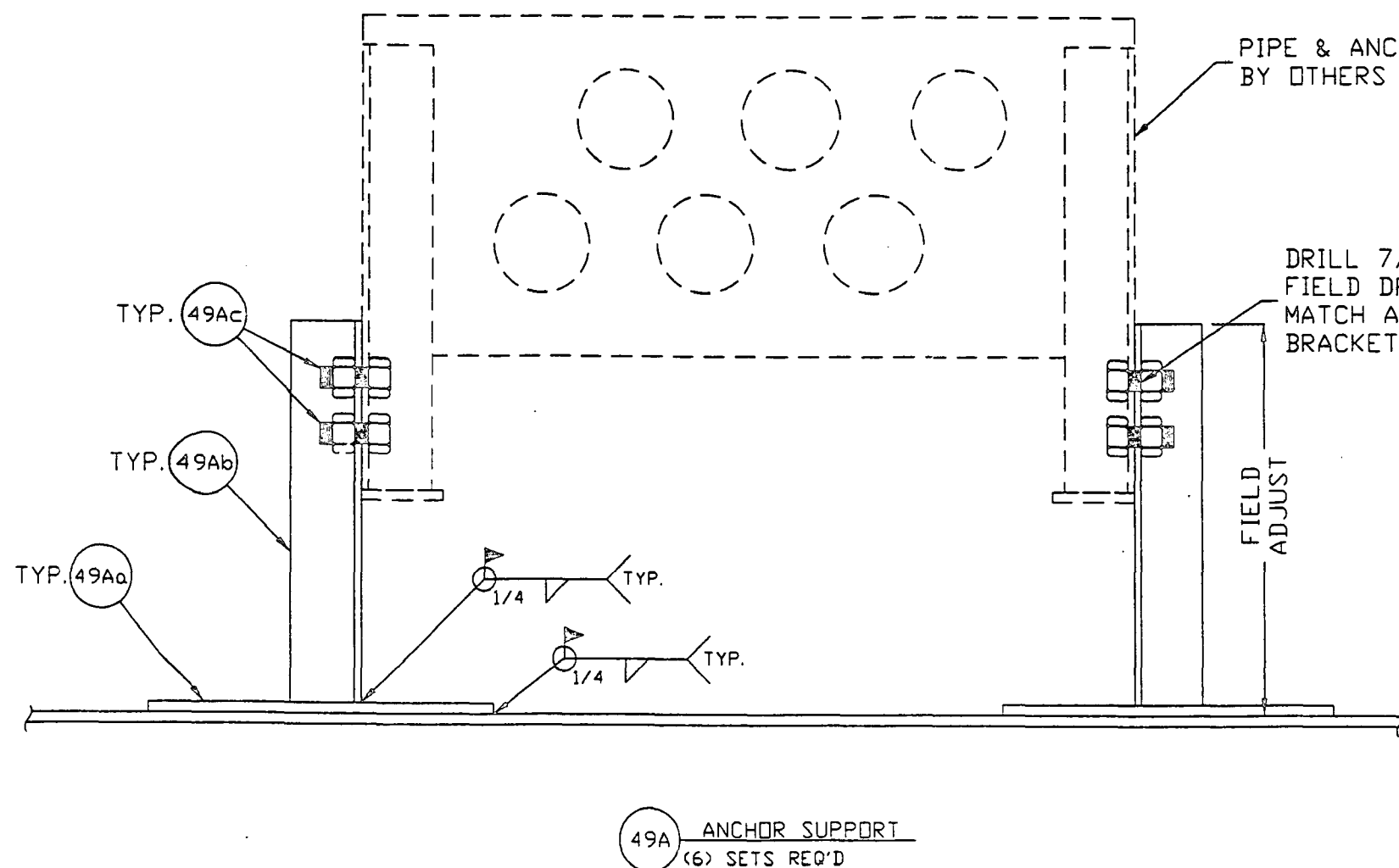
480F50 DWG #: 23800148

Koppers001177

NOTES:  
UNLESS NOTED OTHERWISE  
1. WELD SIZES SHALL EQUAL THICKNESS  
OF THINNER MEMBER JOINED.  
2. SEE SHEET #1 FOR GENERAL NOTES.  
3. SEE SHEET #1 FOR COATING

# BILL OF MATERIALS

# TO SHIP	SHIP MARK	# OF PCS.	ASSY MARK	DESCRIPTION	REMARKS	MATL'S	WT. (LB.)
6	49A			ANCHOR SUPPORT			
12	49Aa			PL 3/8 X 1'-0" X 1'-0"		A36	184
12	49Ab			L2 1/2 X 2 1/2 X 1/4 X 1'-6"		A36	74
24	49Ac			BOLT 3/4" X 2" W/NUT & (2) FW		A325	5



REVIEWED BY  
J. CAMERON McKERNAN COMPANY

1. ☒ Complies with design drawing:  
No exceptions taken.

2. ☐ Exceptions as noted.

3. ☐ Revise as noted and re-submit.

By: C. McKernan Date: 4-13-99

File No: 997-10

REVIEWED BY  
R.J. ROBERTS, INC.

1. ☒ No Exception Taken.

2. ☐ Exceptions As Noted.

3. ☐ Revise As Noted and Resubmit.

All action shown above is subject to the terms of the contract/  
purchase order and does not relieve contractor/seller from any of  
his obligations under the contract/purchase order, including design  
and detailing.

By: J. Roberts Date: 2/17/00

Job No. \_\_\_\_\_

## MORSE CONSTRUCTION GROUP, INC.

5500 SOUTH FIRST AVE. EVERETT, WA 98203

PH. 425-258-2731 E-MAIL MORSE@GREATNORTHERN.NET FAX 425-259-6355

SCALE: N.T.S. APPROVED BY: NC DRAWN BY: WDB

DATE: 1/21/99 UNLESS OTHERWISE SPECIFIED  
DIMENSIONS ARE IN INCHES PS-FAC: 6

KOPPERS IND., PORTLAND, OR.

79'-0" X 57'-0" API

ANCHOR SUPPORT

SH.# 2380-PD-6158

49DF50 DWG #: 23800149

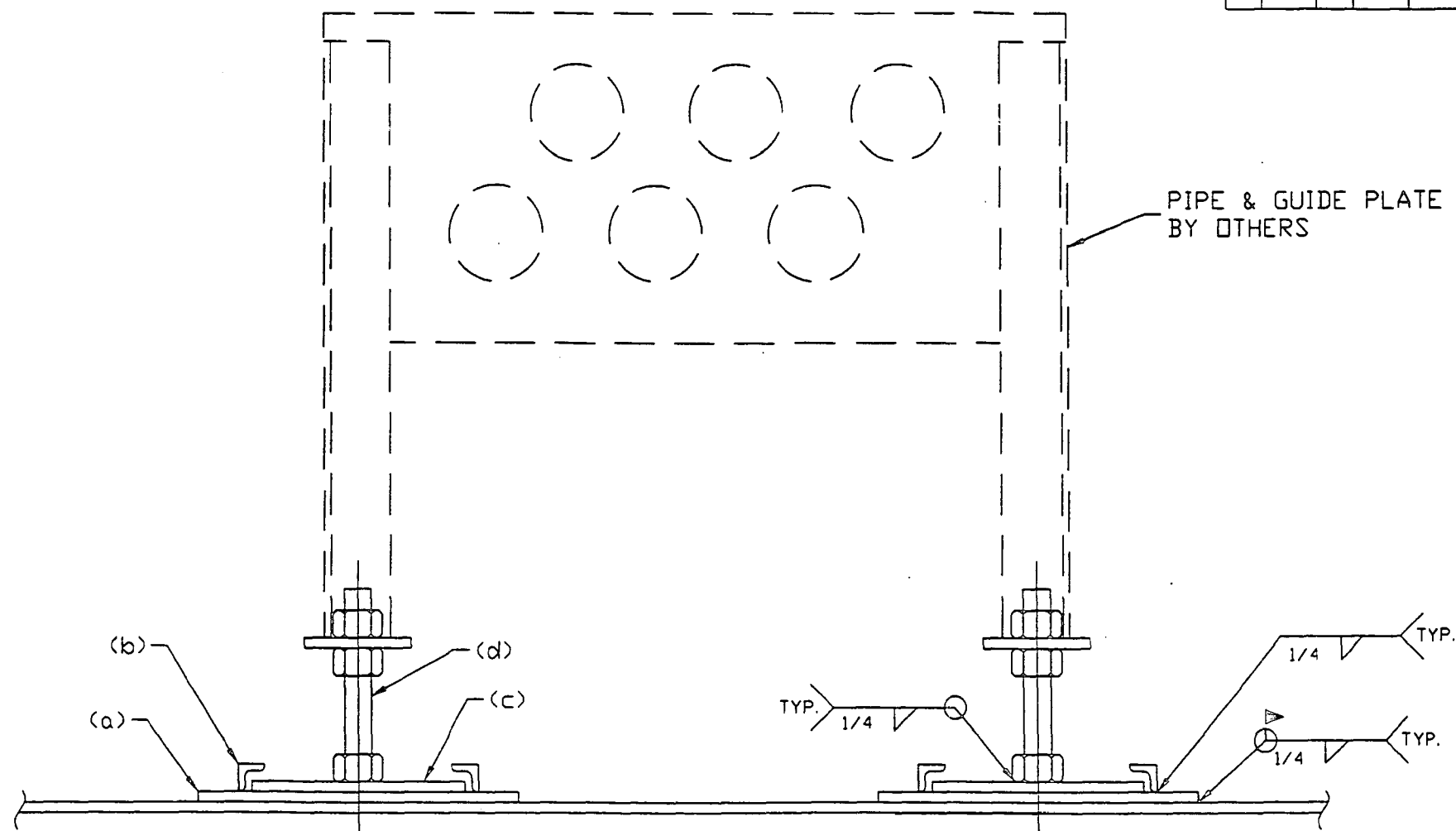
REV	ZN	DESCRIPTION	U	DATE	BY	CHK
REVISIONS						

Koppers001178

WDB5178 12-42-12

NOTES:  
UNLESS NOTED OTHERWISE  
1. WELD SIZES SHALL EQUAL THICKNESS  
OF THINNER MEMBER JOINED.  
2. SEE SHEET #1 FOR GENERAL NOTES.  
3. SEE SHEET #1 FOR COATING

BILL OF MATERIALS							
# TO SHIP	SHIP MARK	# OF PCS.	ASSY MARK	DESCRIPTION	REMARKS	MATL'S	WT. (Lb.)
18	50A			GUIDE SUPPORT			
		36	a	PL 3/8 X 1'-0" X 1'-0"		A36	551
		72	b	L1 X 1 X 1/4 X 0'-7"		A36	63
18	50Aa			GUIDE SUPPORT ASSY.			
		36	C	PL 3/8 X 0'-8" X 0'-8"		A36	245
		36	d	BOLT 1"Ø X 6" W/(2) NUT & (2) FV		A325	15



50A GUIDE SUPPORT  
(18) REQ'D

REVIEWED BY  
J. CAMERON McKERNAN COMPANY

- ☒ Complies with design drawing:  
No exceptions taken.
- ☐ Exceptions as noted.
- ☐ Revise as noted and re-submit.

By: C. McKernan Date 4-13-99  
File No: P99-10

REVIEWED BY  
R.J. ROBERTS, INC.

- ☒ No Exception Taken.
- ☐ Exceptions As Noted.
- ☐ Revise As Noted and Resubmit

All action shown above is subject to the terms of the contract/  
purchase order and shall not relieve contractor/bidder from any of  
his obligations under the contract/purchase order, including design  
and detailing.

By: [Signature] Date 3/17/99  
Job No. \_\_\_\_\_

<b>MORSE CONSTRUCTION GROUP, INC.</b>			
5500 SOUTH FIRST AVE. EVERETT, WA 98203			
PH. 425-258-2731 E-MAIL MORSE@GREATNORTHERN.NET FAX 425-259-6355			
SCALE: N.T.S.	APPROVED BY: <u>JC</u>	DRAWN BY: WDB	
DATE: 1/21/99	UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES		PS-FAC: 6
KOPPERS IND., PORTLAND, OR.			
79'-0"Ø X 57'-0" API			
GUIDE SUPPORT		SH.# 50 OF 50	2380-PD-6158 DWG #: 23800150

REV	ZN	DESCRIPTION	U	DATE	BY	CHK
REVISIONS						

Koppers001179



## **SPCC Plan - 2002**



Koppers Inc.  
Carbon Materials and Chemicals  
7540 NW Saint Helens Road  
Portland, OR 97210-3663  
Tel 503 286 3681  
Fax 503 285 2831  
[www.koppers.com](http://www.koppers.com)

October 26, 2004

Cit of Portland  
Bureau of Environmental Services  
6543 N Burlington Avenue, B217  
Portland, Oregon 97203

Attention: Michael J. Pronold  
Permit Manager

Reference: Spill Prevention, Control and Countermeasure Plan.

Dear Mr. Pronold,

Attached please find a copy of our revised SPCC Plan for your files.

Should you have any questions or comments on the plan, please feel free to contact me at 503/286-3681 or via e-mail at: [turnertj@koppers.com](mailto:turnertj@koppers.com)

Sincerely,

  
T.J. Turner, General Foreman

CC: T. Self, KII



Koppers Inc.  
Carbon Materials and Chemicals  
7540 NW Saint Helens Road  
Portland, OR 97210-3663  
Tel 503 286 3681  
Fax 503 285 2831  
[www.koppers.com](http://www.koppers.com)

October 26, 2004

Portland Fire Bureau  
2915 SE 13<sup>th</sup> Place  
Portland, Oregon 97202

Attention: William A. Henle, C.H.M.M.  
Hazardous Materials Coordinator

Reference: Spill Prevention, Control and Countermeasure Plan.

Dear Mr. Henle,

Attached please find a copy of our revised SPCC Plan for your files.

Should you have any questions or comments on the plan, please feel free to contact me at 503/286-3681 or via e-mail at: [turnertj@koppers.com](mailto:turnertj@koppers.com)

Sincerely,



T.J. Turner, General Foreman

CC: T. Self, KII



Koppers Inc.  
Carbon Materials and Chemicals  
7540 NW Saint Helens Road  
Portland, OR 97210-3663  
Tel 503 286 3681  
Fax 503 285 2831  
www.koppers.com

October 26, 2004

Oregon Dept. of Environmental Quality  
Northwest Region  
2020 SW FORTH Ave., Suite 400  
Portland, Oregon 97201-4987

Attention: Elliot J. Zais  
Sr. Environmental Engineer

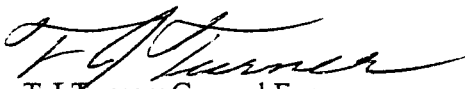
Reference: Spill Prevention, Control and Countermeasure Plan.

Dear Mr. Zais,

Attached please find a copy of our revised SPCC Plan for your files.

Should you have any questions or comments on the plan, please feel free to contact me at 503/286-3681 or via e-mail at: [turnertj@koppers.com](mailto:turnertj@koppers.com)

Sincerely,

  
T.J. Turner, General Foreman

CC: T. Self, KII



Koppers Inc.  
Carbon Materials and Chemicals  
7540 NW Saint Helens Road  
Portland, OR 97210-3663  
Tel 503 286 3681  
Fax 503 285 2831  
www.koppers.com

October 26, 2004

Oregon Dept. of Environmental Quality  
Northwest Region  
2020 SW Footh Ave., Suite 400  
Portland, Oregon 97201-4987

Attention: Ed Druback  
Air Quality Manager


Reference: Spill Prevention, Control and Countermeasure Plan.

Dear Mr. Druback,

Attached please find a copy of our revised SPCC Plan for your files.

Should you have any questions or comments on the plan, please feel free to contact me at 503/286-3681 or via e-mail at: [turnertj@koppers.com](mailto:turnertj@koppers.com)

Sincerely,

  
T.J. Turner, General Foreman

CC: T. Self, KII



Koppers Inc.  
Carbon Materials and Chemicals  
7540 NW Saint Helens Road  
Portland, OR 97210-3663  
Tel 503 286 3681  
Fax 503 285 2831  
[www.koppers.com](http://www.koppers.com)

October 26, 2004

Oregon Dept. of Environmental Quality  
Northwest Region  
2020 SW FORTH Ave., Suite 400  
Portland, Oregon 97201-4987

Attention: Rebecca Paul  
Natural Resource Specialist

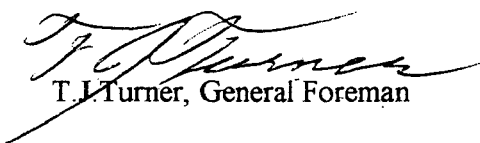
Reference: Spill Prevention, Control and Countermeasure Plan.

Dear Ms. Paul,

Attached please find a copy of our revised SPCC Plan for your files.

Should you have any questions or comments on the plan, please feel free to contact me at 503/286-3681 or via e-mail at: [turnertj@koppers.com](mailto:turnertj@koppers.com)

Sincerely,



T.J. Turner, General Foreman

CC: T. Self, KII



Koppers Inc.  
Carbon Materials and Chemicals  
7540 NW Saint Helens Road  
Portland, OR 97210-3663  
Tel 503 286 3681  
Fax 503 285 2831  
[www.koppers.com](http://www.koppers.com)

October 26, 2004

Good Samaritan Hospital  
1015 NW 22<sup>nd</sup> Avenue  
Portland, Oregon 97210

Attention: Health and Safety Office


Reference: Spill Prevention, Control and Countermeasure Plan.

Dear Sirs,

Attached please find a copy of our revised SPCC Plan for your files.

Should you have any questions or comments on the plan, please feel free to contact me at 503/286-3681 or via e-mail at: [turnertj@koppers.com](mailto:turnertj@koppers.com)

Sincerely,

  
T.J. Turner, General Foreman

CC: T. Self, KII



Koppers Inc.  
Carbon Materials and Chemicals  
7540 NW Saint Helens Road  
Portland, OR 97210-3663  
Tel 503 286 3681  
Fax 503 285 2831  
www.koppers.com

October 26, 2004

U. S. Coast Guard  
2020 N Basin Avenue  
Portland, Oregon 9720-5452

Attention: LCDR Randy Clark  
Marine Safety Officer

Reference: Spill Prevention, Control and Countermeasure Plan.

Dear Lt. Clark,

Attached please find a copy of our revised SPCC Plan for your files.

Should you have any questions or comments on the plan, please feel free to contact me at 503/286-3681 or via e-mail at: [turnertj@koppers.com](mailto:turnertj@koppers.com)

Sincerely,

A handwritten signature in dark ink, appearing to read "T.J. Turner". The signature is fluid and cursive, with a long horizontal stroke extending to the right.

T.J. Turner, General Foreman

CC: T. Self, KII





**Koppers Inc.**  
**Carbon Materials and Chemicals**  
7540 NW Saint Helens Road  
Portland, OR 97210-3663  
Tel 503 286 3681  
Fax 503 285 2831  
[www.koppers.com](http://www.koppers.com)

October 26, 2004

North Precinct, Portland Police Bureau  
2020 N Philadelphia Avenue  
Portland, Oregon 97203

Attention: Bret Smith  
Commander

Reference: Spill Prevention, Control and Countermeasure Plan.

Dear Commander Smith,

Attached please find a copy of our revised SPCC Plan for your files.

Should you have any questions or comments on the plan, please feel free to contact me at 503/286-3681 or via e-mail at: [turnertj@koppers.com](mailto:turnertj@koppers.com)

Sincerely,

A handwritten signature in dark ink, appearing to read "T.J. Turner".

T.J. Turner, General Foreman

CC: T. Self, KII

**SENDER: COMPLETE THIS SECTION**

- Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

PACIFIC TERMINAL SERVICE, INC.  
7900 NW SAINT HELENS RD.  
PORTLAND, OR. 97210

2. Article Number (Copy from service label)

N/A

PS Form 3811, July 1999

Domestic Return Receipt

102595-99-M-1789

**COMPLETE THIS SECTION ON DELIVERY**

A. Received by (Please Print Clearly) B. Date of Delivery

C. Signature

**X**☐ Agent  
☐ AddresseeD. Is delivery address different from item 1? ☐ Yes  
If YES, enter delivery address below: ☐ No

3. Service Type

☒ Certified Mail ☐ Express Mail  
☐ Registered ☒ Return Receipt for Merchandise  
☐ Insured Mail ☐ C.O.D.

4. Restricted Delivery? (Extra Fee)

☐ Yes**SENDER: COMPLETE THIS SECTION**

- Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

GOOD SAMARITAN HOSPITAL  
1015 NW 22<sup>ND</sup> AVE.  
PORTLAND, OR. 97210  
HEALTH + SAFETY OFFICE

2. Article Number (Copy from service label)

N/A

PS Form 3811, July 1999

Domestic Return Receipt

102595-99-M-1789

**COMPLETE THIS SECTION ON DELIVERY**

A. Received by (Please Print Clearly) B. Date of Delivery

C. Signature

**X**☐ Agent  
☐ AddresseeD. Is delivery address different from item 1? ☐ Yes  
If YES, enter delivery address below: ☐ No

3. Service Type

☒ Certified Mail ☐ Express Mail  
☐ Registered ☒ Return Receipt for Merchandise  
☐ Insured Mail ☐ C.O.D.

4. Restricted Delivery? (Extra Fee)

☐ Yes**SENDER: COMPLETE THIS SECTION**

- Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

N. Precinct, Portland Police Bureau  
7214 N. Philadelphia Ave.  
Portland, OR  
Bret Smith, Commander

2. Article Number (Copy from service label)

N/A

PS Form 3811, July 1999

Domestic Return Receipt

102595-99-M-1789

**COMPLETE THIS SECTION ON DELIVERY**

A. Received by (Please Print Clearly) B. Date of Delivery

C. Signature

**X**☐ Agent  
☐ AddresseeD. Is delivery address different from item 1? ☐ Yes  
If YES, enter delivery address below: ☐ No

3. Service Type

☒ Certified Mail ☐ Express Mail  
☐ Registered ☒ Return Receipt for Merchandise  
☐ Insured Mail ☐ C.O.D.

4. Restricted Delivery? (Extra Fee)

☐ Yes

**SENDER: COMPLETE THIS SECTION**

- Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

Oregon Dept. ENV. Quality  
NW Region  
2020 SW. Fourth Ave #400  
Portland, OR. 97201-4987

Rebecca Paul  
Nat. Resource Specialist

2. Article Number (Copy from service label)

N/A

PS Form 3811, July 1999

Domestic Return Receipt

102595-99-M-1789

**COMPLETE THIS SECTION ON DELIVERY**

A. Received by (Please Print Clearly) B. Date of Delivery

C. Signature

**X**☐ Agent☐ AddresseeD. Is delivery address different from item 1? ☐ YesIf YES, enter delivery address below: ☐ No

3. Service Type

☒ Certified Mail☐ Express Mail☐ Registered☒ Return Receipt for Merchandise☐ Insured Mail☐ C.O.D.

4. Restricted Delivery? (Extra Fee)

☐ Yes**SENDER: COMPLETE THIS SECTION**

- Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

Oregon Dept. ENV. Quality  
NW Region  
2020 SW Fourth Ave, #400  
Portland, OR. 97201-4987  
Ed Druback

Air Quality Manager

2. Article Number (Copy from service label)

N/A

PS Form 3811, July 1999

Domestic Return Receipt

102595-99-M-1789

**COMPLETE THIS SECTION ON DELIVERY**

A. Received by (Please Print Clearly) B. Date of Delivery

C. Signature

**X**☐ Agent☐ AddresseeD. Is delivery address different from item 1? ☐ YesIf YES, enter delivery address below: ☐ No

3. Service Type

☒ Certified Mail☐ Express Mail☐ Registered☒ Return Receipt for Merchandise☐ Insured Mail☐ C.O.D.

4. Restricted Delivery? (Extra Fee)

☐ Yes**SENDER: COMPLETE THIS SECTION**

- Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

Oreg. Dept of ENV. Quality  
NW Region  
2020 SW Fourth Ave, #400  
Portland, OR. 97201-4987

Elliot J. Davis  
OR. ENV. Engineer

2. Article Number (Copy from service label)

N/A

PS Form 3811, July 1999

Domestic Return Receipt

102595-99-M-1789

**COMPLETE THIS SECTION ON DELIVERY**

A. Received by (Please Print Clearly) B. Date of Delivery

C. Signature

**X**☐ Agent☐ AddresseeD. Is delivery address different from item 1? ☐ YesIf YES, enter delivery address below: ☐ No

3. Service Type

☒ Certified Mail☐ Express Mail☐ Registered☒ Return Receipt for Merchandise☐ Insured Mail☐ C.O.D.

4. Restricted Delivery? (Extra Fee)

☐ Yes

Koppers001190

**SENDER: COMPLETE THIS SECTION**

- Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

Portland Fire Bureau  
2915 SE 13th Place  
Portland, OR. 97202  
  
Bill Henle  
Haz. Mat. Coordinator

2. Article Number (Copy from service label)

N/A

PS Form 3811, July 1999

Domestic Return Receipt

102595-99-M-1789

**COMPLETE THIS SECTION ON DELIVERY**

A. Received by (Please Print Clearly) B. Date of Delivery

C. Signature

X

☐ Agent☐ AddresseeD. Is delivery address different from item 1? ☐ Yes  
If YES, enter delivery address below: ☐ No

3. Service Type

☒ Certified Mail☐ Express Mail☐ Registered☒ Return Receipt for Merchandise☐ Insured Mail☐ C.O.D.

4. Restricted Delivery? (Extra Fee)

☐ Yes**SENDER: COMPLETE THIS SECTION**

- Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

City of Portland  
Bureau of Env. Services  
6543 N. Burlington Ave  
Portland, OR. 97203  
Mr. J. Arnold #B217  
Permit Myr.

2. Article Number (Copy from service label)

N/A

PS Form 3811, July 1999

Domestic Return Receipt

102595-99-M-1789

**COMPLETE THIS SECTION ON DELIVERY**

A. Received by (Please Print Clearly) B. Date of Delivery

C. Signature

X

☐ Agent☐ AddresseeD. Is delivery address different from item 1? ☐ Yes  
If YES, enter delivery address below: ☐ No

3. Service Type

☒ Certified Mail☐ Express Mail☐ Registered☒ Return Receipt for Merchandise☐ Insured Mail☐ C.O.D.

4. Restricted Delivery? (Extra Fee)

☐ Yes**SENDER: COMPLETE THIS SECTION**

- Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

U.S. Coast Guard  
6267 N. Basin Ave.  
Portland, OR. 97203-5452  
  
LCAR Randy Clark  
Marine Safety Officer

2. Article Number (Copy from service label)

N/A

PS Form 3811, July 1999

Domestic Return Receipt

102595-99-M-1789

**COMPLETE THIS SECTION ON DELIVERY**

A. Received by (Please Print Clearly) B. Date of Delivery

C. Signature

X

☐ Agent☐ AddresseeD. Is delivery address different from item 1? ☐ Yes  
If YES, enter delivery address below: ☐ No

3. Service Type

☒ Certified Mail☐ Express Mail☐ Registered☒ Return Receipt for Merchandise☐ Insured Mail☐ C.O.D.

4. Restricted Delivery? (Extra Fee)

☐ Yes

Koppers001191



**Koppers Inc.**  
**Carbon Materials and Chemicals**  
7540 NW Saint Helens Road  
Portland, OR 97210-3663  
Tel 503 286 3681  
Fax 503 285 2831  
[www.koppers.com](http://www.koppers.com)

October 25, 2004

Pacific Terminal Services, Inc.  
7900 NW Saint Helens Road  
Portland, Oregon 97210-3663

Attention: Tina Garrett  
Terminal Manager

Reference: Spill Prevention, Control and Countermeasure Plan.

Dear Ms. Garrett,

Attached please find a copy of our revised SPCC Plan for your files.

Should you have any questions or comments on the plan, please feel free to contact me at 503/286-3681 or via e-mail at: [turnertj@koppers.com](mailto:turnertj@koppers.com)

Sincerely,

T.J. Turner, General Foreman

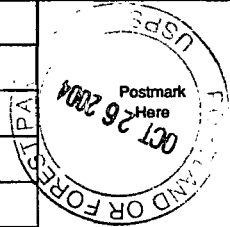
CC: T. Self, KII

7004 1160 0003 7254 6475

U.S. Postal Service<sup>TM</sup>  
**CERTIFIED MAIL<sup>TM</sup> RECEIPT**  
(Domestic Mail Only; No Insurance Coverage Provided)

For delivery information visit our website at [www.usps.com](http://www.usps.com)<sup>®</sup>  
**OFFICIAL USE**

Postage	\$
Certified Fee	
Return Receipt Fee (Endorsement Required)	
Restricted Delivery Fee (Endorsement Required)	
Total Postage & Fees	\$ 6.53



Sent To  
*Portland Fire Bureau*  
Street, Apt. No.,  
or PO Box No. *2915 SE 13th place*  
City, State, ZIP+4  
*Portland OR 97202*

**Certified Mail Provides:**

PS Form 3800, June 2002 (Reverse)

- A mailing receipt
- A unique identifier for your mailpiece
- A record of delivery kept by the Postal Service for two years

**Important Reminders:**

- Certified Mail may **ONLY** be combined with First-Class Mail® or Priority Mail®.
- Certified Mail is *not* available for any class of international mail.
- **NO INSURANCE COVERAGE IS PROVIDED** with Certified Mail. For valuables, please consider Insured or Registered Mail.
- For an additional fee, a *Return Receipt* may be requested to provide proof of delivery. To obtain Return Receipt service, please complete and attach a Return Receipt (PS Form 3811) to the article and add applicable postage to cover the fee. Endorse mailpiece "Return Receipt Requested". To receive a fee waiver for a duplicate return receipt, a USPS® postmark on your Certified Mail receipt is required.
- For an additional fee, delivery may be restricted to the addressee or addressee's authorized agent. Advise the clerk or mark the mailpiece with the endorsement "*Restricted Delivery*".
- If a postmark on the Certified Mail receipt is desired, please present the article at the post office for postmarking. If a postmark on the Certified Mail receipt is not needed, detach and affix label with postage and mail.

**IMPORTANT:** Save this receipt and present it when making an inquiry. Internet access to delivery information is not available on mail addressed to APQs and FPOs.

7004 1160 0003 7254 6978

U.S. Postal Service<sup>TM</sup>  
**CERTIFIED MAIL<sup>TM</sup> RECEIPT**  
(Domestic Mail Only; No Insurance Coverage Provided)

For delivery information visit our website at [www.usps.com](http://www.usps.com)

**OFFICIAL USE**

Postage	\$
Certified Fee	
Return Receipt Fee (Endorsement Required)	
Restricted Delivery Fee (Endorsement Required)	
Total Postage & Fees	\$ 6.53



Sent To	N. Precinct Portland Police
Street, Apt. No., or PO Box No.	7214 N. Philadelphia ave
City, State, Zip+4	Portland OR 97203

PS Form 3800, June 2002

See Reverse for Instructions



**Certified Mail Provides:**

PS Form 3800, June 2002 (Reverse)

- A mailing receipt
- A unique identifier for your mailpiece
- A record of delivery kept by the Postal Service for two years

**Important Reminders:**

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- If a postmark on the Certified Mail receipt is desired, please present the article at the post office for postmarking. If a postmark on the Certified Mail receipt is not needed, detach and affix label with postage and mail.

**IMPORTANT: Save this receipt and present it when making an inquiry.**  
Internet access to delivery information is not available on mail addressed to APOs and FPOs.

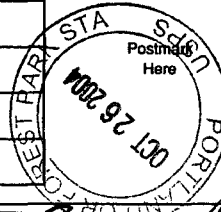
7004 1160 0003 7254 6901

U.S. Postal Service™  
**CERTIFIED MAIL™ RECEIPT**  
(Domestic Mail Only; No Insurance Coverage Provided)

For delivery information visit our website at [www.usps.com](http://www.usps.com)®

**OFFICIAL USE**

Postage \$  
Certified Fee  
Return Receipt Fee  
(Endorsement Required)  
Restricted Delivery Fee  
(Endorsement Required)  
Total Postage & Fees \$ 6.3



Sent To U.S. Coast Guard  
Street, Apt. No.,  
or PO Box No. 1767 N. BASIN AVE.  
City, State, ZIP+4 Portland OR 97203-5452

PS Form 3800, June 2002

See Reverse for Instructions

**Certified Mail Provides:**

PS Form 3800, June 2002 (Reverse)

- A mailing receipt
- A unique identifier for your mailpiece
- A record of delivery kept by the Postal Service for two years

**Important Reminders:**

- Certified Mail may ONLY be combined with First-Class Mail® or Priority Mail®.
- Certified Mail is *not* available for any class of international mail.
- NO INSURANCE COVERAGE IS PROVIDED with Certified Mail. For valuables, please consider Insured or Registered Mail.
- For an additional fee, a *Return Receipt* may be requested to provide proof of delivery. To obtain Return Receipt service, please complete and attach a Return Receipt (PS Form 3811) to the article and add applicable postage to cover the fee. Endorse mailpiece "Return Receipt Requested". To receive a fee waiver for a duplicate return receipt, a USPS® postmark on your Certified Mail receipt is required.
- For an additional fee, delivery may be restricted to the addressee or addressee's authorized agent. Advise the clerk or mark the mailpiece with the endorsement "*Restricted Delivery*".
- If a postmark on the Certified Mail receipt is desired, please present the article at the post office for postmarking. If a postmark on the Certified Mail receipt is not needed, detach and affix label with postage and mail.

**IMPORTANT: Save this receipt and present it when making an inquiry. Internet access to delivery information is not available on mail addressed to APOs and FPOs.**

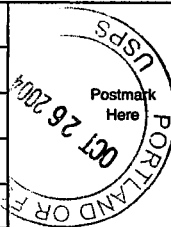
7004 1160 0003 7254 6932

**U.S. Postal Service™**  
**CERTIFIED MAIL™ RECEIPT**  
*(Domestic Mail Only; No Insurance Coverage Provided)*

For delivery information visit our website at [www.usps.com](http://www.usps.com)®

**OFFICIAL USE**

Postage	\$
Certified Fee	
Return Receipt Fee (Endorsement Required)	
Restricted Delivery Fee (Endorsement Required)	
Total Postage & Fees	\$ 6.5



Sent To Good Samaritan Hospital  
 Street, Apt. No.,  
 or PO Box No. 1015 NW 22<sup>nd</sup> Ave  
 City, State, ZIP+4 Portland, OR 97210

PS Form 3800, June 2002

See Reverse for Instructions

**Certified Mail Provides:**

PS Form 3800, June 2002 (Reverse)

- A mailing receipt
- A unique identifier for your mailpiece
- A record of delivery kept by the Postal Service for two years

**Important Reminders:**

- Certified Mail may **ONLY** be combined with First-Class Mail® or Priority Mail®.
- Certified Mail is **not** available for any class of international mail.
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**IMPORTANT:** Save this receipt and present it when making an inquiry. Internet access to delivery information is not available on mail addressed to APOs and FPOs.

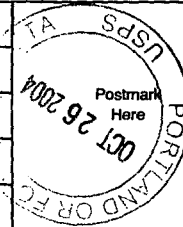
7004 1160 0003 7254 6949

**U.S. Postal Service™**  
**CERTIFIED MAIL™ RECEIPT**  
(Domestic Mail Only; No Insurance Coverage Provided)

For delivery information visit our website at [www.usps.com](http://www.usps.com)®

**OFFICIAL USE**

Postage	\$
Certified Fee	
Return Receipt Fee (Endorsement Required)	
Restricted Delivery Fee (Endorsement Required)	
Total Postage & Fees	\$ 6 <sup>03</sup>



Sent To	Dept of Env. Quality
Street, Apt. No., or PO Box No.	2020 Foothills Ave
City, State, ZIP+4	Portland, OR 97201-4987

PS Form 3800, June 2002

See Reverse for Instructions

**Certified Mail Provides:**

(Reverse) PS Form 3800, June 2002

- A mailing receipt
- A unique identifier for your mailpiece
- A record of delivery kept by the Postal Service for two years

**Important Reminders:**

- Certified Mail may **ONLY** be combined with First-Class Mail® or Priority Mail®.
- Certified Mail is *not* available for any class of international mail.
- **NO INSURANCE COVERAGE IS PROVIDED** with Certified Mail. For valuables, please consider Insured or Registered Mail.
- For an additional fee, a *Return Receipt* may be requested to provide proof of delivery. To obtain Return Receipt service, please complete and attach a Return Receipt (PS Form 3811) to the article and add applicable postage to cover the fee. Endorse mailpiece "Return Receipt Requested". To receive a fee waiver for a duplicate return receipt, a USPS® postmark on your Certified Mail receipt is required.
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- If a postmark on the Certified Mail receipt is desired, please present the article at the post office for postmarking. If a postmark on the Certified Mail receipt is not needed, detach and affix label with postage and mail.

**IMPORTANT:** Save this receipt and present it when making an inquiry. Internet access to delivery information is not available on mail addressed to APOs and FPOs.

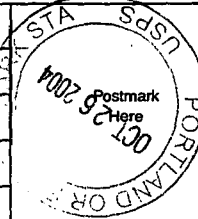
7004 1160 0003 7254 6956

**U.S. Postal Service™**  
**CERTIFIED MAIL™ RECEIPT**  
 (Domestic Mail Only; No Insurance Coverage Provided)

For delivery information visit our website at [www.usps.com](http://www.usps.com)®

**OFFICIAL USE**

Postage	\$
Certified Fee	
Return Receipt Fee (Endorsement Required)	
Restricted Delivery Fee (Endorsement Required)	
Total Postage & Fees	\$ 6 <sup>53</sup>



Sent To  
*Oregon Dept of Environm*  
 Street, Apt. No.,  
 or PO Box No. *2020 SW Fox Thave #400*  
 City, State, ZIP+4  
*Portland OR 97201-4987*

PS Form 3800, June 2002

See Reverse for Instructions



**Certified Mail Provides:**

PS Form 3800, June 2002 (Reverse)

- A mailing receipt
- A unique identifier for your mailpiece
- A record of delivery kept by the Postal Service for two years

**Important Reminders:**

- Certified Mail may **ONLY** be combined with First-Class Mail® or Priority Mail®.
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- For an additional fee, delivery may be restricted to the addressee or addressee's authorized agent. Advise the clerk or mark the mailpiece with the endorsement "*Restricted Delivery*".
- If a postmark on the Certified Mail receipt is desired, please present the article at the post office for postmarking. If a postmark on the Certified Mail receipt is not needed, detach and affix label with postage and mail.

**IMPORTANT: Save this receipt and present it when making an inquiry. Internet access to delivery information is not available on mail addressed to APOs and FPOs.**

7004 1160 0003 7254 6963

U.S. Postal Service <sup>TM</sup>	
CERTIFIED MAIL <sup>TM</sup> RECEIPT	
(Domestic Mail Only; No Insurance Coverage Provided)	
For delivery information visit our website at <a href="http://www.usps.com">www.usps.com</a>	
OFFICIAL USE	
Postage	\$
Certified Fee	
Return Receipt Fee (Endorsement Required)	
Restricted Delivery Fee (Endorsement Required)	
Total Postage & Fees	\$ 10.95

Sent To

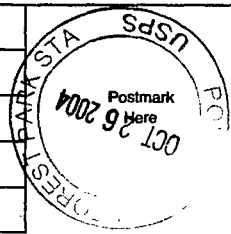
City of Portland Env. Serv

Street, Apt. No.,  
or PO Box No. 6543 N. Burlington Ave

City, State, ZIP+4 Portland, OR 97203

PS Form 3800, June 2002

See Reverse for Instructions



**Certified Mail Provides:**

PS Form 3800, June 2002 (Reverse)

- A mailing receipt
- A unique identifier for your mailpiece
- A record of delivery kept by the Postal Service for two years

**Important Reminders:**

- Certified Mail may ONLY be combined with First-Class Mail® or Priority Mail®.
- Certified Mail is *not* available for any class of international mail.
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- For an additional fee, delivery may be restricted to the addressee or addressee's authorized agent. Advise the clerk or mark the mailpiece with the endorsement "*Restricted Delivery*".
- If a postmark on the Certified Mail receipt is desired, please present the article at the post office for postmarking. If a postmark on the Certified Mail receipt is not needed, detach and affix label with postage and mail.

**IMPORTANT: Save this receipt and present it when making an inquiry. Internet access to delivery information is not available on mail addressed to APOs and FPOs.**

7004 1160 0003 7254 6970

U.S. Postal Service™		
CERTIFIED MAIL™ RECEIPT		
(Domestic Mail Only; No Insurance Coverage Provided)		
For delivery information visit our website at <a href="http://www.usps.com">www.usps.com</a> ®		
OFFICIAL USE		
Postage	\$ 1.98	UNIT ID: 0010  Postmark Here Clerk: KMHJX
Certified Fee	2.30	
Return Receipt Fee (Endorsement Required)	1.75	
Restricted Delivery Fee (Endorsement Required)		
Total Postage & Fees	\$ 6.03	
Sent To <i>Pacific Terminal Services</i> Street, Apt. No., or PO Box No. <i>7900 NW ST Helens Rd</i> City, State, ZIP+4 <i>Portland, OR 97210</i>		
PS Form 3800, June 2002		See Reverse for Instructions

**Certified Mail Provides:**

PS Form 3800, June 2002 (Reverse)

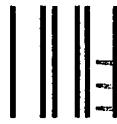
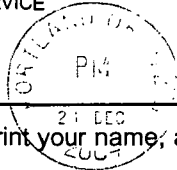
- A mailing receipt
- A unique identifier for your mailpiece
- A record of delivery kept by the Postal Service for two years

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- For an additional fee, delivery may be restricted to the addressee or addressee's authorized agent. Advise the clerk or mark the mailpiece with the endorsement "*Restricted Delivery*".
- If a postmark on the Certified Mail receipt is desired, please present the article at the post office for postmarking. If a postmark on the Certified Mail receipt is not needed, detach and affix label with postage and mail.

**IMPORTANT: Save this receipt and present it when making an inquiry.**  
Internet access to delivery information is not available on mail addressed to APOs and FPOs.

UNITED STATES POSTAL SERVICE

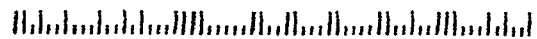


First-Class Mail  
Postage & Fees Paid  
USPS  
Permit No. G-10

• Sender: Please print your name, address, and ZIP+4 in this box •

KOPPERS INC.  
7540 NW ST HELENS RD.  
PORTLAND, OR 97210-3663

3



**SENDER: COMPLETE THIS SECTION**

- Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

Facility Officer  
U.S. COAST GUARD  
6767 N. BASIN Ave  
Portland, OR. 97217

2. Article Number (Copy from service label)

**COMPLETE THIS SECTION ON DELIVERY**

A. Received by (Please Print Clearly)

B. Date of Delivery

C. Signature

X *Debra K. Koppert*☐ Agent☐ AddresseeD. Is delivery address different from item 1? ☐ YesIf YES, enter delivery address below: ☐ No

3. Service Type

☒ Certified Mail☐ Express Mail☐ Registered☒ Return Receipt for Merchandise☐ Insured Mail☐ C.O.D.

4. Restricted Delivery? (Extra Fee)

☐ Yes

7004 1160 0004 2018 7940

11-02-04  
UNITED STATES POSTAL SERVICE

DCR #6



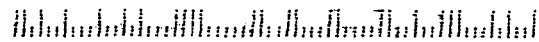
PORTLAND, OR 97203

First-Class Mail  
Postage & Fees Paid  
USPS  
Permit No. G-10

• Sender: Please print your name, address, and ZIP+4 in this box •

KOPPERS INC.  
7540 NW ST HELENS RD.  
PORTLAND, OR 97210-3663

883





**SENDER: COMPLETE THIS SECTION**

- Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

Good Samaritan Hospital  
1015 NW 22<sup>nd</sup> Ave.  
Portland, OR. 97210  
Health & Safety Office

2. Article Number (Copy from service label)

N/A

**COMPLETE THIS SECTION ON DELIVERY**

A. Received by (Please Print Clearly) B. Date of Delivery

S. J. Wilson 10-28-04

C. Signature

X 

☐ Agent

☐ Addressee

D. Is delivery address different from item 1?

☐ Yes

If YES, enter delivery address below:

☐ No

3. Service Type

☒ Certified Mail

☐ Express Mail

☐ Registered

☒ Return Receipt for Merchandise

☐ Insured Mail

☐ C.O.D.

4. Restricted Delivery? (Extra Fee)

☐ Yes

7004 1160 0003 7254 6932

UNITED STATES POSTAL SERVICE



First-Class Mail  
Postage & Fees Paid  
USPS  
Permit No. G-10

• Sender: Please print your name, address, and ZIP+4 in this box •

KOPPERS INC.  
7540 NW ST HELENS RD.  
PORTLAND, OR 97210-3663

**SENDER: COMPLETE THIS SECTION**

- Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

PACIFIC TERMINAL SERVICE, INC.  
7900 NW SAINT HELENS RD.  
PORTLAND, OR. 97210  
TINA GARRETT

**COMPLETE THIS SECTION ON DELIVERY**

A. Received by (Please Print Clearly) B. Date of Delivery

Tina Garrett 11-7-99

C. Signature

Tina Garrett ☐ Agent ☐ Addressee

D. Is delivery address different from item 1? ☐ Yes

If YES, enter delivery address below: ☐ No

3. Service Type

- ☒ Certified Mail ☐ Express Mail
- ☐ Registered ☒ Return Receipt for Merchandise
- ☐ Insured Mail ☐ C.O.D.

4. Restricted Delivery? (Extra Fee) ☐ Yes

2. Article Number (Copy from service label)

N/A

7004 1160 0003 7254 6970

UNITED STATES POSTAL SERVICE



First-Class Mail  
Postage & Fees Paid  
USPS  
Permit No. G-10

• Sender: Please print your name, address, and ZIP+4 in this box •

KOPPERS INC.  
7540 NW ST HELENS RD.  
PORTLAND, OR 97210-3663

SENDER: COMPLETE THIS SECTION		COMPLETE THIS SECTION ON DELIVERY	
<p>■ Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired.</p> <p>■ Print your name and address on the reverse so that we can return the card to you.</p> <p>■ Attach this card to the back of the mailpiece, or on the front if space permits.</p>		<p>A. Received by (Please Print Clearly) B. Date of Delivery</p> <p style="text-align: right;">OCT 27 2004</p>	
<p>1. Article Addressed to:</p> <p>Oregon Dept. Env. Quality NW Region 2020 SW Park Ave, #400 Portland, OR. 97201-4987 Ed Druback Air Quality Manager</p>		<p>C. Signature</p> <p>X DEQ/NWR <input type="checkbox"/> Agent <input type="checkbox"/> Addressee</p>	
<p>2. Article Number (Copy from service label)</p> <p>N/A</p>		<p>D. Is delivery address different from item 1? <input type="checkbox"/> Yes If YES, enter delivery address below: <input type="checkbox"/> No</p>	
		<p>3. Service Type</p> <p><input checked="" type="checkbox"/> Certified Mail <input type="checkbox"/> Express Mail <input type="checkbox"/> Registered <input checked="" type="checkbox"/> Return Receipt for Merchandise <input type="checkbox"/> Insured Mail <input type="checkbox"/> C.O.D.</p>	
		<p>4. Restricted Delivery? (Extra Fee) <input type="checkbox"/> Yes</p>	
		<p>7004 1160 0003 7254 6956</p>	

PS Form 3811, July 1999

Domestic Return Receipt

102595-99-M-1789

UNITED STATES POSTAL SERVICE



First-Class Mail  
Postage & Fees Paid  
USPS  
Permit No. G-10

• Sender: Please print your name, address, and ZIP+4 in this box •

KOPPERS INC.  
7540 NW ST HELENS RD.  
PORTLAND, OR 97210-3663

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NW Region  
2020 SW. Fort Ave #400  
Portland, OR. 97201-4987

Rebecca Paul  
Nat. Resource Specialist

2. Article Number (Copy from service label)

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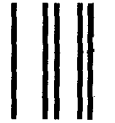
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Portland, OR. 97201-4987  
Elliot F. Zais  
Sr. Env. Engineer

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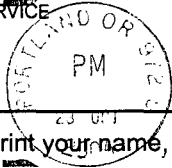
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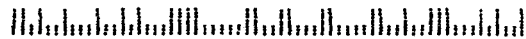


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*CITY OF PORTLAND  
BUREAU OF ENV. SERVICES  
6543 N. BURLINGTON AVE  
PORTLAND, OR. 97203  
MICHAEL J. PRONOLD #B217  
PERMIT MYR.*

2. Article Number (Copy from service label)

*N/A*

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*[Signature]*

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## 1. Article Addressed to:

Portland Fire Bureau  
2915 SE 13th Place  
Portland, OR. 97202

Bill Henle

Haz. Mat. Coordinator

## 2. Article Number (Copy from service label)

N/A

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CHARLES KEERAN

C. Signature

x Charles Keeran

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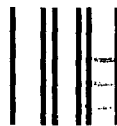
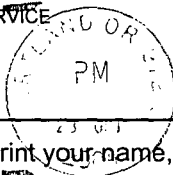
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7540 NW ST HELENS RD.  
PORTLAND, OR 97210-3663

83



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1. Article Addressed to:

N. Precinct, Portland Police Bureau  
7214 N. Philadelphia Ave.  
Portland, OR 97203  
Bret Smith, Commander

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2. Article Number (Copy from service label)

N/A

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PS Form 3811, July 1999

Domestic Return Receipt

102595-99-M-1789

CONTINGENCY, SPCC  
AND  
POLLUTION PREVENTION PLAN

KOPPERS INC.  
NORTHWEST TERMINAL  
PORTLAND, OR



SPCC AND CONTINGENCY PLAN, PORTLAND PLANT, KOPPERS INDUSTRIES

CONTINGENCY PLAN,  
SPILL PREVENTION, CONTROL,  
AND COUNTERMEASURES (SPCC) PLAN  
AND  
STORM WATER POLLUTION PREVENTION PLAN  
KOPPERS INDUSTRIES, INC.  
NORTHWEST TERMINAL  
7540 NW Saint Helens Rd.  
PORTLAND, OR 97210-3663  
July 11, 2002

CERTIFICATION

I here by certify that I have inspected the subject facility, and being familiar with the provisions of 40 CFR 112 for SPCC requirements and 40 CFR 122 for Storm Water Pollution Prevention requirements, attest that this Plan has been prepared in accordance with good engineering practices.

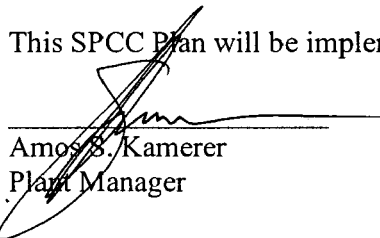


William A. Meisinger, P.E.  
Koppers Industries, Inc.  
Manager of Engineering  
PENNA. # PE-038022-E

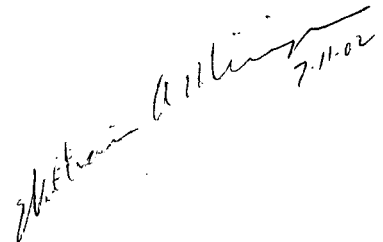
Date: 7/11/02

MANAGEMENT APPROVAL

This SPCC Plan will be implemented as herein described.



Amos S. Kamerer  
Plant Manager



## SPCC AND CONTINGENCY PLAN, PORTLAND PLANT, KOPPERS INC.

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Attachment - A Environmental Incident Communication & Reporting Policy A1 – A8

## SPCC AND CONTINGENCY PLAN, PORTLAND PLANT, KOPPERS INC.

### 1.0 INTRODUCTION

This plan has been developed to: a) provide a basis for planning for and responding to potential spills, accidents, fires, or other contingencies and b) describe and implement practices to minimize and control pollutants in storm water discharges and ensure discharge permit compliance. It includes the requirements for the Contingency Plan as required by the Resources Conservation and Recovery Act (RCRA), the Spill Prevention, Control and Countermeasures (SPCC) Plan and Storm Water Pollution Prevention Plan (SWPPP) of the Clean Water Act, and the inventory reporting requirements of the Emergency Planning and Community Right-to Know Act (SARA Title III).

Questions concerning this plan may be directed to:

T.J. Turner	General Foreman	(503) 286-3681
Amos S. Kamerer	Consultant	(503) 286-3681

### 1.1 FACILITY LOCATION

The Northwest Terminal is located in Multnomah County in the city of Portland, OR. The terminal is located on approximately 6.4 acres of leased property. The property owner is the N W Natural, 220 NW Second Avenue, and Portland, OR, 97209. The portion of the property that Koppers Industries leases is addressed as 7540 NW Saint Helens Rd., Portland, OR, 97210-3663. The property is bounded by Saint Helens Road (Oregon State Highway 30) on the south, the N W Natural property extending to the shore of the Willamette River on the north. The N W Natural liquefied natural gas plant on the west. The south end of NW Front Ave. separates Koppers property from Wacker Siltronic Corporation, on the eastern boundary. There three full time employees at the terminal, 1 salaried and 2 hourly. Normal operating hours are from midnight on Sundays through 4:00 p.m. on Fridays. Generally, the plant is closed on the weekends.

### 1.2 OPERATION

Coal tar pitch is imported via bulk and/or liquid cargo vessels. This product is then stored at the terminal, prior to the distribution to our customers. Outbound shipments are made via tank truck or tank cars.

The solid coal tar pitch is imported via bulk cargo vessels through the Port of Longview, Washington and is then trucked from Longview to the terminal. The liquid coal tar pitch is imported via a bulk cargo vessel that is also equipped with heated storage tanks for hauling the pitch. These receipts arrive at the NW Natural Gasco dock on the Willamette River, where they are pumped from the vessel, through a pipeline that is about 2,400 feet long, to a storage tank at the terminal.

All products and/or chemicals used or handled through the terminal are covered by material safety data sheets, which are on file. All employees have been trained on the usage of these materials and educated in the proper manner of reading and understanding of the material safety data sheets. This training is mandatory and is given annually.

## **SPCC AND CONTINGENCY PLAN, PORTLAND PLANT, KOPPERS INC.**

### **1.3 COORDINATED EMERGENCY SERVICES**

This plan is written to facilitate the quick and efficient coordination of emergency response actions between Koppers Inc. (Koppers) and any emergency response companies or agencies, which may be needed. Copies of this plan, and updates, are provided to the following:

Oregon, Department of Environmental Quality

Portland Fire Department, Station number 22

Portland Police Department, North Precinct (St. Johns)

Good Samaritan Hospital

City of Portland, Bureau of Environmental Services

US Coast Guard

Pacific Terminal Services, Inc.

Plant Supervisors and Employee's

Instructions on how and when to obtain assistance for emergency situations including agency and contractor phone numbers are included in this plan.

### **1.4 SPCC AND SWPPP PLAN MAINTENANCE**

This Plan must be kept up to date. Notify Koppers' Environmental Program Manager in the event of any changes made. Automatic review, evaluation and recertification by a Professional Engineer are required once every three years from the date of the latest certification. This Plan must also be amended whenever there is a change in design, construction, operation or maintenance which materially affects the facility's potential for discharge, and the amendment fully implemented as soon as possible and no later than within six months.

A copy of this Plan is to be maintained in the plant's main office and the plants control room.

Notify the Environmental Program manager if any amendment needs to be made to this Plan.

## **2.0 INVENTORY OF OIL AND HAZARDOUS MATERIALS**

### **2.1 Discussion**

Various materials used at the Koppers facility are considered hazardous based on the toxicity or flammability of those materials. These include coal tar distillate, coal tar pitch, boiler water treatment chemicals, diesel, gasoline, heat transfer oil and lubricants for plant vehicles and equipment.

## SPCC AND CONTINGENCY PLAN, PORTLAND PLANT, KOPPERS INC.

### 2.2 Business Information and Identification

The following information applies to the Koppers Inc. Northwest Terminal:

Business Name:	Koppers Inc.
Business Phone:	(503) 286-3681
Business Fax:	(503) 285-2831
Owner:	Koppers Inc. 436 Seventh Ave. Pittsburgh, PA 15219
Operator:	Same as owner
SIC Code:	2865
EPA ID Number:	ORD 027734359
Site Address:	7540 NW Saint Helens Road Portland, OR 97210-3663
Mail Address:	Same as above
Type of Business:	Coal Tar Pitch Terminal

### 2.3 Emergency Contacts/ Emergency Coordinators

#### Name/Address

T.J. Turner, General Forman  
17815 NE 152<sup>nd</sup>. Avenue  
Bush Prairie, WA 98606  
Home Phone [REDACTED] Cellular Phone (503) 705-9507

Amos S. Kamerer, Consultant  
5912 Knightsbridge Drive  
Portland, OR 97219  
Home Phone [REDACTED] Cellular Phone (503) 705-8748

## **SPCC AND CONTINGENCY PLAN, PORTLAND PLANT, KOPPERS INC.**

The above people can normally be reached during work hours at the business phone number, (503) 286-3681. Additionally, the night shift operator, when there is a night shift during the normal 5-day workweek, can be reached at (503) 286-3682 or cellular phone at (503) 250-0672.

The General Foreman is the Primary Emergency Coordinator and should be contacted first. If he is not available, the others should be called, in the order listed, until someone is reached. The Primary Emergency Coordinator and alternates have complete authority to commit all necessary resources of the company in the event of an emergency.

During off shifts, the shift operator will notify the Emergency Coordinator (above) who will assume responsibility for implementation upon his arrival at the terminal. Also, on weekends and holidays when there is no shift work occurring, the terminal is patrolled by NW Natural's Pinkerton Security guards who make rounds through the terminal, hourly. The guards have been provided with a list of emergency phone numbers to call in case of a problem.

Phone numbers for Koppers Inc. Corporate Contacts are provided on Page 14.

### **2.4 Hazardous Materials Inventory**

The products used, or stored on the Koppers facility is listed by tank number in, Table 3.7. (Tank Listings Table) and is found on page 11. These tanks are also shown by number on the site map, found on page 26. All other buildings and structures are also shown on the site map.

## **3.0 SPILL PREVENTION, CONTROL, AND COUNTERMEASURES**

### **3.1 Description**

This section of the Plan provides information specific to the storage and handling of hazardous liquids; spill prevention and containment equipment, and countermeasures to be implemented to control the impact of a spill. The Tank Listings Table, Table 3.11, lists all the tanks at the Koppers terminal by number, along with contents and the tank capacities. The location of these can be found on the site map, on page 26.

### **3.2 Conformance with SPCC Standards and Guidelines**

This facility meets the minimum requirements for diversionary structures and equipment to prevent discharged oil or hazardous substances from reaching navigable waters as required by 40 CFR 112.7(c) by providing secondary containment for all major tanks and process equipment.

The Northwest terminal is in conformance with the applicable guidelines of 40 CFR 112.7 (c). Rainwater is collected, stored and then tested prior to discharge; all in accordance with our NPDES permit requirements. Tank installations are equipped with secondary containment and are regularly inspected by operators. Spill prevention details for equipment and processes are discussed more fully below.

## SPCC AND CONTINGENCY PLAN, PORTLAND PLANT, KOPPERS INC.

### 3.3 Inspections and Security

The operator that is on duty, through out each shift checks all operational areas in the plant every 2 hours. Any problems or unusual circumstances which cannot be immediately resolved are reported to the Supervisor.

### 3.4 General Plant Spill Prevention

A hazardous material spill can occur any place, any time. All employees are prepared to respond immediately to control the situation and to notify management. Containing a spill to the smallest area possible is the first step.

Containment can quickly be constructed using available equipment and supplies; usually by placing dirt, sand, or available absorbent pads or absorbent containment booms around the lower side of a spill. If possible, a spill will be prevented from reaching the surface water drainage where it can spread more rapidly and have greater environmental and health impact.

Employees familiar with the equipment involved supervise loading operations. Buckets and/or pans are placed under hose connections to collect drips. The employees are trained to always be watchful that hoses and/or pipelines can be full of product and that they should take extra care when disconnecting hoses. Properly, and promptly cleanup any drips or spills. Supervisors must be notified of any spills that are outside of the containment areas. Collected materials will be returned to the processes or will be properly containerized for disposal.

### 3.5 Surface Drainage

The terminal property is at 37' above sea level and our out-fall for pumping off the collected storm water runoff is located on the very southeastern tip of the property, at approximately a 10 ft elevation above a creek that flows to the Willamette River.

In the Northwest terminal there are two run-off patterns for site drainage. The first is directly in front of the office and away from any pitch handling areas. This area would not be threatened by a spill. All other run-off areas from the plant feed into the tank farm and then into a concrete collection sump. Dual sump pumps (one operation and one standby) lift the run-off into the storm water storage tanks #1, #2, #3, #4, #5, and #6. When these tanks fill, they are sampled and the samples are taken to an Oregon Department of Environmental Quality approved laboratory for analysis in accordance with our NPDES permit limits. When the laboratory reports that the test results are within the permit limit parameters, the water is pumped to the out-fall, referenced above.

Equipment, including secondary spill containment, has been installed and procedures implemented to prevent oil or hazardous materials from leaving the plant. A spill is most likely to occur in the process area, where it can be contained.

Koppers has installed extensive paving at the coal tar distillate tank car heat exchanger unloading station, including paving between the rail tracks and the loading area for trucks. In addition, a below grade sealed concrete sump was installed as a catch basin. This catch basin has

## SPCC AND CONTINGENCY PLAN, PORTLAND PLANT, KOPPERS INC.

approximately 1500-gallon capacity. Also two-sump pumps have been installed. The first pump is automatically activated and pumps collected storm water into the tank farm storm water run-off, collection system for further handling.

The second pump is energized only when unloading coal tar distillate rail cars. This pump is on a float-activated switch and is piped to #39 tank, which is now designated as the emergency response tank at this location. Tank #39 is of sufficient capacity to hold the gallonage of a full tank car or 20,000 gallons. It is the duty of the loading/unloading employee to clear the catch basin of water, then open the valve to tank #39 and energize the automatic pump. In this way, should a distillate spill occur, all precautions are in place to contain the spill.

In the case of a spill in which hazardous materials or oils reach any of the drainage ditches, immediate action must be taken to contain the spill. Temporary earth dams should be constructed using plant equipment along the ditches, creating a series of impoundments to contain the flow. Sorbent booms may be used to remove containments from the water held behind the dams, is needed.

These dams can only hold back a limited amount of water, so emergency help should be contacted at the first sign that such a spill has occurred or may occur.

### 3.6 Tank Car Unloading

Tank cars are unloaded at the unloading station, where the process transfer pipelines are all above ground. The potential spill sources in this area include leaks from the process tanks, valves, pumps, and pipe systems. These leaks can best be prevented by proper valve and pump maintenance and equipment inspection during material transfers. Any leaks or drips must be cleaned up immediately.

As part of the operation procedures, drains and outlets on tank trucks and tank cars are checked for leakage before and after each loading and unloading operation. Operations personnel performing loading and unloading activities are instructed to inspect piping and pumps associated with these activities and to report spills or leakage.

The driver performs a visual inspection of the truck and trailer after each loading and if repairs are needed the truck is shopped for repairs.

The operating procedures included in this plan form the basis for the training of operations personnel in the prevention of coal tar distillate or coal tar pitch discharges. Job positions within the Northwest terminal require that new personnel, working in unfamiliar process areas will have a senior experienced employee to guide them. Personnel are also instructed in the operation and maintenance of equipment to prevent discharges.



## SPCC AND CONTINGENCY PLAN, PORTLAND PLANT, KOPPERS INC.

### 3.7 Vessel Unloading

As of December 1999 a project was completed which gives this facility the capability of unloading liquid coal tar pitch vessels at the GASCO dock, directly to a new storage tank T-200. The unloading is accomplished through a pipeline that runs from the GASCO dock on the Willamette River to tank T-200. The liquid coal tar pitch is unloaded at an elevated temperature of approximately 400 degrees F. To maintain the liquid pitch at these temperatures there is a companion line that is attached to the outside of the unloading line, with a heat transfer oil running through it to provide the maintenance heat that is required. There is containment on the GASCO dock, at the end of the pipeline, should a release occur. In an effort to minimize the impact of such a release, a leak detection monitoring system has been installed on the heat transfer oil lines, which will automatically shut off the flow of the heat transfer oil, to and from the dock. There is curbed containment at the on shore leak detection monitoring station; and also around the tank T-200 area, should a release occur at either location.

Containment boom is deployed to surround the entire unloading/loading area prior to the loading or the unloading of any vessel. In the event of a release of coal tar pitch or heat transfer fluid that reaches the Willamette River, the containment boom will already be in place and Pacific Terminal Services, Inc. (PTSI) personnel will notify the Qualified Individual from Koppers Inc. and the contracted Oil Spill Response Organization (OSRO) to remediate the discharge.

The discharges of our liquid coal tar pitch vessels, at the GASCO dock, will be handled through a contract for the tankermen services, with Pacific Terminal Services, Inc. (PTSI). PTSI has amended their operating authority letter with the U. S. Coast Guard, their Oil Spill Contingency Plan, and their Operating Manual, to reflect the addition of the handling our liquid coal tar pitch.

### 3.8 Tank Farm

The concrete-wall-lined and earth-diked tank farm has a total containment capacity of approximately 2,900,000 gallons. Operators regularly walk and inspect this area, checking for corrosion, leaks or stains, or anything out of the ordinary. They also do any housekeeping, as necessary.

Table 3.8

SPCC AND CONTINGENCY PLAN, PORTLAND PLANT, KOPPERS INC.

TANK LISTING TABLE  
Koppers Inc. Northwest Plant

<u>Tank No.</u>	<u>Current use</u>	<u>Last contained</u>	<u>Capacity (000)</u>	<u>Residue Est. (gals)</u>	<u>Date Cleaned</u>
1	Empty & Cleaned	Crude Tar	660	0	11/2002
2	Empty & Cleaned	Crude Tar	1065	0	11/2002
3	Empty & Cleaned	Methyl Solvent	99	0	11/2002
4	Empty & Cleaned	Lt. Uncorrected Distillate	99	0	11/2002
11	Empty & Cleaned	Creosote	254	0	11/2002
12	Empty & Cleaned	Unknown	57	0	11/2002
17	Empty & Cleaned	Heavy Oil Distillate	20	0	11/2002
18	Empty & Cleaned	NSR Oil	20	0	11/2002
19	Empty & Cleaned	P&R Oil	20	0	11/2002
20	Empty & Cleaned	Creosote	712	0	11/2002
23	Empty & Cleaned	Lt. Uncorrected Distillate	20	0	11/2002
33	Heavy Oil	Heavy Oil Distillate	45	In use	
34	Empty & Cleaned	NSR Oil	45	0	11/2002
39	Empty & Cleaned	Creosote	20	0	11/2002
53	Empty & Cleaned	Creosote	10	0	11/2002
65	Liquid Pitch	Liquid Pitch	761	In use	
66	Empty & Cleaned	Creosote	191	0	02/2003
67	Heavy Oil	Heavy Oil Distillate	102	In use	
68	Liquid Pitch	Liquid Pitch	248	In use	
74	Empty & Cleaned	Creosote	20	0	11/2002
99	Empty & Cleaned	Creosote	209	0	11/2002
101	Creosote	Creosote	759	169184	
102	Fume Tank	Heavy Oil Distillate	9.3	In use	
200	Liquid Pitch	Liquid Pitch	2100	In use	
V201	Empty & Cleaned	Liquid Pitch	19	0	11/2002
V207	Empty & Cleaned	Liquid Pitch	19	0	11/2002
240	Heat Transfer Oil	Heat Transfer Oil	2	In use	
250	Heat Transfer Oil	Heat Transfer Oil	2	In use	
SW #1	Storm Water	Storm Water	45	In use	
SW #2	Storm Water	Storm Water	45	In use	
SW #3	Storm Water	Storm Water	45	In use	
SW #4	Storm Water	Storm Water	45	In use	
SW#5	Storm Water	Storm Water	20	In use	
SW#6	Storm Water	Storm Water	20	In use	
DSL-1	Diesel Storage	Diesel	4.5	In use	
DSL-1	Diesel Storage	Diesel	4.5	In use	

Note: Tanks marked as Empty and Cleaned were cleaned to “commercially acceptable practices” to meet RCRA standards.

## SPCC AND CONTINGENCY PLAN, PORTLAND PLANT, KOPPERS INC.

### 3.9 Fuel and Lubrication Oil

All fuels and lubricating Oils are stored in the Oil Storage Shed, adjacent to track 5, between the Office and the Service Room buildings. Drums are stored upright and kept sealed and are on containment skids. Dispensing areas are kept clean. Oil drippage is contained. Any minor spills are contained and cleaned up immediately.

### 3.10 Hazardous Waste Storage Facilities

Hazardous waste is placed in drums when generated. Full drums are stored in the Oil Storage Shed. The drum or drums, are then disposed of through RCRA approved facilities, within less than 90 days.

## 4.0 EMERGENCY RESPONSE PROCEDURES

### 4.1 General

This section of the Plan describes the actions that are to be taken by Koppers personnel in response to any injury, accident, fire explosion, or unplanned release of any hazardous material to the air, soil, or water.

### 4.2 Emergency Coordination

As soon as an employee discovers an emergency situation, that person shall quickly estimate the extent of the problem, take safe and appropriate control action, and then notify the terminal management immediately. Per the list in Section 2.3 page 7, the operator, who is present, will assume the responsibilities of Emergency Coordinator (EC). Other personnel will respond as directed by the EC as needed.

The EC has Koppers Inc. authority to commit plant employees and contract labor and equipment, or to purchase supplies as needed.

Effective communication is vital in any emergency response. All terminal employees have portable two-way radios, which will be used for communication and coordination between the plant offices and yard areas. Phones may also be used between offices.

### 4.3 Immediate Response

As soon as an employee discovers an emergency situation, he should quickly determine the extent of the problem. If a simple action can be taken to control the situation, such as shutting a valve to stop the flow from a ruptured pipe and the action can be done safely, then the control action should be completed first. If there is no simple safe control action, the operator shall immediately notify the terminal management and any other personnel who may be endangered by the incident, by two-way radio.

## SPCC AND CONTINGENCY PLAN, PORTLAND PLANT, KOPPERS INC.

### 4.4 Response Procedures

#### 4.4.1 Upon discovery or notification that an emergency exists, the EC shall:

- Determine the extent of the emergency.
- Implement plant evacuation, if needed, to prevent injury.
- Call for outside assistance as needed.
- Start immediate control actions.
- Implement cleanup or other responses.
- Notify local, state, and federal agencies as required.
- Notify Koppers Pittsburgh Office.
- Assure completion of cleanup.
- Provide for storage of cleanup material, including hazardous waste.
- Evaluate possible hazards to human health or environment.
- Make a final written incident report.
- Make other notifications as stated in Section 3.5, Emergency Notifications.

Many of these actions may occur concurrently.

4.4.2 Whenever there is a release, fire, or explosion, the emergency coordinator should immediately identify the character, exact source, the amount, and area affected by the incident. This may be done by observation, or review of facility records, or manifests and if necessary, by chemical analysis. Form 4.5.5, pages 17 – 20, should be used to document the information needed for notifications.

4.4.3 Concurrently, the Emergency Coordinator shall assess possible hazards to human health or the environment that may result from the release, fire, or explosion. This assessment shall consider both direct and indirect effects of the release, fire, or explosion (e.g., the effects of any hazardous or asphyxiating gases that are generated or the effects of any hazardous surface water run-off from water or chemical agents used to control fire and heat-induced explosions).

4.4.4 If the Emergency Coordinator determines that the facility has had a release, fire, or explosion which could threaten human health or the environment, outside of the facility, or if the released amount of hazardous or extremely hazardous material exceeds the Reportable Quantity (RQ). These findings shall be immediately reported (within 15 minutes) to the National Response Center as in Section 4.5, Emergency Notifications, all per the Koppers Inc. Environmental Incident Communication and Reporting Policy (KII-E-002). A copy of this Policy and the Incident Reporting forms are found in Attachment A to this Plan.

**Note:** The reportable quantities for Koppers products are listed on pages number 5 & 6 of the Environmental Incident Communication and Reporting Policy, found in Attachment A of this Plan.

## **SPCC AND CONTINGENCY PLAN, PORTLAND PLANT, KOPPERS INC.**

If his assessment indicates that evacuation of local areas may be advisable, appropriate local authorities shall be notified immediately. The Emergency Coordinator shall be available to help appropriate officials decide whether local areas should be evacuated.

4.4.5 During an emergency, the Emergency Coordinator shall take all reasonable measures necessary to ensure that fires, explosions, and releases do not occur, recur, or spread to other hazardous wastes or materials at the plant. These measures could include turning water sprays onto tanks, stopping and isolating processes, shutting off power to areas collecting and containing released materials, or moving and isolating other containers.

4.4.6 If some or all operations are stopped in response to an emergency, the emergency coordinator shall monitor tanks, pipes, valves, and other process equipment for leaks, pressure build-up or ruptures wherever appropriate.

4.4.7 Immediately after an emergency, the Emergency Coordinator shall provide for treating, storing, or disposing of recovered materials or wastes, contaminated soil, surface water, or any other material that results from a release, fire or explosion.

4.4.8 Before resuming operations, the Emergency Coordinator shall:

- a. Insure that clean up is complete to the point that operations will not interfere or create further potential for hazardous waste release.
- b. Insure that all emergency equipment is cleaned and fit for use.
- c. If hazardous wastes or a hazardous waste unit has been involved, then advise the Dept. of Environmental Quality and EPA region X that Steps a and b above are complete.

4.4.9 If hazardous wastes or the hazardous waste unit has been involved, the Emergency Coordinator shall submit a written report as requested by the Dept. of Environmental Quality. A copy of the completed report shall be maintained in the Operating Record.

### **4.5 Emergency Notifications**

4.5.1 The Emergency Coordinator shall ensure that the necessary notifications are made. Form 4.5.5 entitled, "Emergency and/or Hazardous Materials Incident Report" is to be used. Page one is organized to provide all of the information needed for the initial verbal notification of the National Response Center of other agencies. As soon as a spill or other incident is discovered, the supervisor/manager who will do the reporting should begin filling in the information.

Page 2 should be used as a log of notification made. Get the position and name of the person who accepts the phone notifications. Also, if an incident number is assigned, as by the National Response Center, that number should be recorded. As more is learned about the incident, the report should be updated. Updates can be recorded on page 2 as well.

## SPCC AND CONTINGENCY PLAN, PORTLAND PLANT, KOPPERS INC.

Pages 1, 2, and 3, completed either by hand or typed, can be used for the required written notification of agencies. These should be sent with cover letters showing everyone who will get copies. Copies must be kept in the plant's Operating Record.

Finally, page 4 should be used for Koppers Inc. internal reporting of additional related information. KII has an obligation to report all spills, which could possibly, impact over-all cleanup work. The complete report, Pages 1, 2, 3, and 4 should be sent to the Environmental Program Manager including original photographs. He will provide the required notification to Beazer East, Inc.

### 4.5.2 What spills or incidents must be reported and to whom?

The following is a summary. Note that more than one category may apply.

If outside help is needed. IMMEDIATELY:

Call fire and/or other appropriate emergency agencies describe incident and needed assistance, such as fire suppression, medical aid, evacuation and/or crowd control.

If a release or threatened release of hazardous material: OR

If a health threat or release outside of facility: OR

If the release results in or has the potential to cause an oil sheen on or discoloration of runoff water:

Call 911 for immediate help. If the release involved a Reportable Quantity (RQ) then call both the Oregon Emergency Management Office at 1-800-424-8802 and the National Response Center at 1-800-424-8802.

452 0311

Such releases that cannot be recovered must also be included in the SARA Title III annual reports.

If the release results in or has the potential to reach the City Storm or Sanitary Sewer drains, IMMEDIATELY:

Call the Duty Officer at 823-7180

If hazardous waste or a hazardous waste unit is involved OR if the plant contingency plan is implemented: IMMEDIATELY AND NOT LATER THAN 24 HOURS:

Call the Oregon Emergency Management Office at 1-800-452-0311

AND, within 15 days

Submit a written report of the incident to them at:

595 Cottage Street, N.E.  
Salem, Oregon 97310

**SPCC AND CONTINGENCY PLAN, PORTLAND PLANT, KOPPERS INC.**

If the release impacts the waters of the United States, a written report must also be sent to the EPA, as follows: Environmental Protection Agency

Director, Region X  
1200 Sixth Avenue  
Seattle, Wash. 98101

If injuries result in 3 or more people being hospitalized or 1 or more people killed, IMMEDIATELY:

Call the US Occupational Safety and Health Administration or authorized state OSHA agency **WITHIN 8 HOURS!**

In all cases, as soon as the emergency situation allows, Koppers management in Pittsburgh shall be called. Follow the guidance contained in "Internal Emergency Notification Procedures" for Koppers Industries, Inc. At least one of the following contacts in Pittsburgh shall be notified:

<u>Name, Position</u>	<u>Work Phone</u>	<u>Home Phone</u>	<u>Cellular Phone</u>
Traci Self, Mgr. Environmental Compliance	412/227-2883		412/401-7334
Greg Tomlinson, Corporate Safety Manager	412/227-2677		412/512-7256
Randy Collins, Mgr. Loss Control	412/227-2456		412/551-4554

SPCC AND CONTINGENCY PLAN, PORTLAND PLANT, KOPPERS INC.

Form 4.5.3

EMERGENCY AND/OR HAZARDOUS MATERIALS  
INCIDENT REPORT

OWNER/OPERATOR: Koppers Inc.  
Plant Name: Northwest Terminal  
Street Address: 7540 N.W. Saint Helens Road.  
City/State/Zip: Portland, OR 97210-3663  
Phone: (503) 286-3681  
EPA ID#: ORD 0267734359

FACILITY: Same as above

DATE OF INCIDENT: \_\_\_\_\_ TIME OF INCIDENT: \_\_\_\_\_

TYPE OF INCIDENT: Fire, Explosion, Hazardous Material Spill,  
(Circle one) Hazardous Waste Spill, Injury Accident

Other: \_\_\_\_\_

MATERIAL INVOLVED:

<u>Name</u>	<u>Quantity</u>	<u>Media (soil, water, etc.)</u>
_____	_____	_____
_____	_____	_____
_____	_____	_____

EXTENT OF INJURIES, IF ANY:

\_\_\_\_\_  
\_\_\_\_\_

DISPOSITION OF RECOVERED MATERIAL:

<u>Material</u>	<u>Quantity</u>	<u>How Disposed or Stored</u>
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\_\_\_\_\_  
\_\_\_\_\_



SPCC AND CONTINGENCY PLAN, PORTLAND PLANT, KOPPERS INC.

Page 2

NOTIFICATION LOG:

<u>Agency</u>	<u>Phone No.</u>	<u>Name of Person</u>	<u>Date/Time Notified</u>
Portland Fire Dept.	911	_____	_____
Oregon Emergency Management	1-800-452-0311	_____	_____
National Response Center	1-800-424-8802	_____	_____
Oregon OSHA	503-229-5910	_____	_____
City Duty Officer	503-823-7180	_____	_____
(For Storm, Sewer, and Drain Contamination, only)			
Northwest Natural	503-224-3532	_____	_____
Wacker Siltronics	503-243-2020	_____	_____
Security for FAB #1	Ext. 7420	_____	_____
Security for FAB #2	Ext. 4300	_____	_____
Fuel & Marine Marketing, LLC	503-286-5321	_____	_____
Manager of Environmental Compliance, Traci Self			
Office	412-227-2883		
Home	412-247-5515		
Cellular	412-913-9358		

**SPCC AND CONTINGENCY PLAN, PORTLAND PLANT, KOPPERS INC.**

Page 3

ADDITIONAL DESCRIPTION OF INCIDENT AND ACTIONS TAKEN (Attach additional pages, as needed):

This image shows a single sheet of white paper with horizontal blue or grey ruling lines. The lines are evenly spaced and run across the width of the page. There are no margins, text, or other markings on the paper.

REPORT BY (Name): \_\_\_\_\_ DATE \_\_\_\_\_

REPORT REVISED: \_\_\_\_\_ DATE \_\_\_\_\_

REPORT REVISED: \_\_\_\_\_ DATE \_\_\_\_\_

SUPPLEMENTAL INFORMATION REPORT

(This part of the report is intended for Koppers internal use only.)

CLEARLY DESCRIBE HOW INCIDENT OCCURRED:

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WHAT ACTS OR CONDITIONS MOST DIRECTLY CAUSED THE INCIDENT:

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DESCRIBE ANY RESIDUAL CONTAMINATION OR IMPACT:

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ATTACH PHOTOGRAPHS WHICH SHOW INCIDENT AREA, BEFORE AND AFTER RESPONSE ACTIONS. MARK DATE ON PHOTOS. ATTACH ADDITIONAL SHEETS AS NEEDED TO DESCRIBE INCIDENT AND THE RESPONSE ACTIONS TAKEN.

## SPCC AND CONTINGENCY PLAN, PORTLAND PLANT, KOPPERS INC.

### 4.6 Available Equipment

The following equipment is available at the plant:

<u>EQUIPMENT</u>	<u>STORAGE LOCATION</u>	<u>CAPABILITIES</u>
Front-end loader	Pitch storage building	Placement of materials and equipment, construct containments, control and contain spillage area.
1 Pickup Truck	Office parking lot	Transport materials and equipment
Oil absorbent Pads and Booms	Various Emergency-Response Cabinets	Absorb and contain spilled liquids,
Lift Truck	Shop area	Transport and placement of materials and equipment
Portable Pump	Shop area	Pump liquids back into containments.
Sand	Along the wall, West of the boiler house	Containment dam building material and absorbent
Hand tools	Shop area	Pick-up contaminated soil and material and clean spillage area.
Drums	North-side pitch-warehouse	To hold contaminated soil and material from clean-up actions

The above equipment can be effectively used to control and clean a spill of oil, hazardous material, or hazardous waste. Trucks and tractors can be used to transport and place soil for containment dams, absorbing spilled liquid, and contaminated soil from cleanup actions. Pumps can be used to pump spilled liquid back into containments. After response action is complete, equipment should be placed on the drip pad or vehicle wash pad and be decontaminated with the steam cleaner prior to being released from the response.

### 4.7 Emergency Response Contract Service

Koppers has a Corporate Agreement with IT Corporation to provide for any environmental services in the event of an emergency. IT Corporation can be reached 24 hours per day at # 1-800-537-9540. Ask for the "EMERGENCY RESPONSE MANAGER". IT Corporation is to provide notification within 30 minutes after receipt of the emergency call, of its acceptance of the work and their expected response time.

### 4.8 Fire and Disaster Response Plans

4.8.1 This section of the Plan provides additional information on specific response actions to be taken in the event of a major disaster, emergency, or other disruption. Such an event could include:

- Fire or explosion
- Earthquake
- Strike or civil strife

## SPCC AND CONTINGENCY PLAN, PORTLAND PLANT, KOPPERS INC.

4.8.2 Fire disasters can occur anywhere in the plant environment, so all employees should be knowledgeable as to the proper method for handling all types of fires, and where the largest potential risk areas are located. Communications with and between plant employees is vital to a safe and effective response.

### 4.8.3 Designated Response Stations

In the case of a disaster or other major incident, employees shall secure their work areas and processes and then report to the Plant Manager and/or General Foreman, at the main office, if they are not directly involved in Emergency Response.

Plant Office Employees stay at the office. Coordinate outside calls, inquiries, and media contacts.

### 4.8.4 Evacuation

The need for evacuation shall be signaled by a message over the radio to all employees. All employees shall follow the safest path to meet at the closest location outside the property fence. If the main entrance is **not** affected, the employees should meet at Wacker Siltronics guard shack on the entrance road. If the main entrance is affected, then the closed safe location outside the property fence will have to be determined; generally, that would be towards N W Naturals LNG plant or towards the river behind the pencil pitch storage buildings.

Supervisors shall account for all of their employees, notify the EC when they are “all clear” and relay further instructions. An alternate location will be designated and announced at the time of the incident if the Main office is not a safe check-in location.

### 4.8.5 Fire Suppression Systems

Fire Hose and Hose Reels are located at strategic points around the terminal. Employees must be familiar with ones within their work areas.

Fire Extinguishers are located throughout the plant and on rolling stock. CO-2 and ABC Dry Chemical types are used exclusively.

Dry Fire Water Suppression piping system is located at the ship unloading dock.

### 4.8.6 Civil Strife, Strike

Emergencies resulting from or shutdowns as a result of, civil strife or strike situations require the control of people entering the plant, both authorized and unauthorized. Local law enforcement agencies can be helpful in achieving this goal, but in-plant security is management’s immediate concern. When a total shutdown is planned, and security measures are to be implemented, the following should be observed.

## SPCC AND CONTINGENCY PLAN, PORTLAND PLANT, KOPPERS INC.

### Boiler

- Secure door locks.
- Follow established shutdown procedure.
- Assure that all steam line drains are open

### Hazardous Waste Storage Area

- Properly store all hazardous waste drums in the Boiler House.
- Lock doors.

### Major Operations

- Secure electrical panels.
- Turn off air compressors and shut valves.
- Store and secure portable tools, cords, hoses, etc.
- Clean up area for safety and fire protection.

### Rolling Stock

- Park centrally in area in front of shop.

### Gates

- Keep locked at all times.
- Put on new locks to prevent unauthorized entry.

### Security Patrols

- Security patrols will be made 24 hours per day.
- Communication will be maintained at all times between the patrols and the main office by radio.

### Lighting

- The plant has general yard lighting system consisting of flood lights, streetlights and incandescent lighting. Outdoor lighting in front of the main office is controlled by photocells.

## 4.9 Medical Emergency Plans

Emergency and first aid supplies are maintained at the following work locations:

Main Office (Main supply Center)

Control Room (Intermediate supply location)

Maintenance Shop (Intermediate supply location)

First aid supplies are intended for use on minor cuts, abrasions, and burns requiring simple care such as band-aids, disinfectant, or ointment. Supplies are also available for the immediate treatment of severe injuries while awaiting professional medical care, such as gauze pads, bandages, and splints.

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Any First aid applied at the plant by plant employee's, is in no way intended to replace any needed medical attention, but only to help prior to receiving professional treatment.

If serious Injury occurs, assure that an ambulance is called immediately.

### **5.0 STORM WATER POLLUTION PREVENTION PLAN**

#### **5.1 General**

This section of the Plan describes the pollution prevention procedures and facilities for this plant to minimize the impact of storm water runoff to the surrounding environment. This section specifically addresses the requirements of our Storm Water Industrial NPDES Permit.

#### **5.2 Pollution Prevention Objectives and Process**

All boiler blowdown water and storm water runoff is collected in our tank farm and is handled under the terms and conditions of our NPDES permit. No discharges are made unless they meet these terms and conditions.

### **6.0 TRAINING**

All plant employees shall receive training on the content of this plan. Supervisors will each receive a copy and become thoroughly familiar with it through training, discussion, and self-study. Supervisors will train their employees in the overall plan and in the specific needs of their work areas.

Training will, at a minimum, include programs to ensure that facility personnel understand basic procedures for pollution prevention and good housekeeping and are able to respond effectively to emergencies by familiarizing them with emergency procedures, emergency equipment, and emergency systems, including, as applicable to each employee's job function:

- Procedures for using, inspection, repairing, and replacing facility emergency and monitoring equipment;
- Communications and alarm systems;
- Response to fires or explosions;
- Response to ground water or surface water contamination
- Shutdown of operations;
- Methods for the safe handling of hazardous materials;
- Procedures for coordination with local emergency response organizations;

## **SPCC AND CONTINGENCY PLAN, PORTLAND PLANT, KOPPERS INC.**

- Use and location of medical supplies;
- Use of emergency response equipment and supplies appropriate to work areas;
- Emergency response procedures and plans contained within this SPCC and Contingency Plan.

Refresher training will be provided at least annually. New employees will not work in unsupervised positions until they have completed all training required for those positions. Supervisors will provide training to their employees and management will assure that supervisors are properly trained.

Employees with specific additional job related training needs will also be given that training, such as hazardous waste handling training as required by RCRA and State regulations, hazardous waste operating procedures for fuel additive to the boiler, storm water pollution prevention, and waste water operations.

This training may be coordinated and take place concurrent with Hazard Communication and RCRA training. Safety meetings and annual updates.



**SPCC AND CONTINGENCY PLAN, PORTLAND PLANT, KOPPERS INC.**

**Record of Revisions**

<b><u>Date</u></b>	<b><u>Reasons</u></b>
October 22, 2004	Updated the tank list after cleaning project, updated equipment capabilities and updated other minor needs.

**Plan Review Documentation form**

As required per CFR 112.5(b), I have reviewed this SPCC Plan and to the best of my knowledge, no changes or discharge incidents have occurred since the last review or certification which require amendment and recertification of this SPCC, as it exists, remains current and accurate.

Reviewer: T. J. Turner, General Foreman

\_\_\_\_\_  
Signature of Reviewer

\_\_\_\_\_  
Date

# Policy



Koppers Inc.  
Effective Date: 09/22/03  
Revision Number: 4  
Page A1 of A6

<b>Category:</b> SH&E <b>Subject:</b> Environmental Incident Communication and Reporting	<b>Written by:</b> T.R. Basilone <b>Approved by:</b> S.R. Lacy	<b>Scope:</b> US, KE, KA <b>Document No.:</b> K-SHE-014
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## PURPOSE:

The purpose of this policy is to ensure environmental incidents (as described in the "Policy" section below) are:

- acted upon, reported, and documented in accordance with applicable regulations, and
- communicated to appropriate agencies and corporate management in a timely manner.

## POLICY SUMMARY:

*This policy summarizes the reporting requirements following a spill and provides a table of reportable quantities for materials produced or commonly used at Koppers facilities.*

## POLICY:

1. **Action in the event of an environmental incident:** The plant will:
  - a. Take action to contain the spill, leak or un-permitted release and minimize risk of injury or property damage. This may include calling an emergency response contractor.
  - b. Report as follows:
    - (1) Releases in excess of the RQ:
      - (a) Immediately to the National Response Center (NRC) and appropriate state and local authorities (as defined in the Contingency/SPCC Plan).
        - Contact a corporate environmental manager before (if possible) or as soon as possible after making the telephone report to the proper authorities.
        - For Koppers products in transportation, upon becoming aware of an incident, report the incident telephonically to the NRC and other required authorities (if a report has not already been made).
      - (b) As soon as possible (via electronic mail or telephone) to:
        - Chief Executive Officer
        - Vice-President for Safety, Health, and Environmental Affairs
        - Division General Manager
        - Division operations manager
        - Corporate Environmental Manager
    - (2) All other incidents:
      - (a) To regulatory authorities, as required by permit or regulation
      - (b) As soon as possible to:
        - Corporate environmental manager

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- Division operations manager
  - c. Conduct a thorough investigation to determine the root cause of the incident.
  - d. Take corrective action to ensure the risk of reoccurrence of the incident is minimized. Include a summary of the incident and its root cause in the monthly report for the facility.
  - e. Develop written reports:
    - (1) For spills in excess of the RQ:
      - Complete an internal incident report (K-FORM-SHE-003), and transmit it to the corporate environmental manager and division operations manager within 48 hours following the incident and file a copy at the plant.
      - Update the SPCC/Contingency Plan to include notations describing the incident.
      - Prepare a follow-up letter, summarizing the incident and response actions taken, for distribution to the proper agencies within 48 hours following the incident. This report will be reviewed by the corporate environmental manager prior to transmittal to any agency.
    - (2) For spills not in excess of the RQ:

Maintain and update a log for recording information relating to incidents, spills, leaks and releases of material below the applicable RQ. Record the following information:

      - the date of occurrence
      - the root cause
      - how the material was cleaned up
      - actions taken to prevent reoccurrence
2. **Press statements:** Prior to release, all press statements regarding an environmental incident will be reviewed and approved by the division operations manager and the corporate environmental manager.

## **RESPONSIBILITIES:**

The plant manager will:

1. Ensure the contingency/SPCC Plans for the facility are kept updated (minimum annually), that facility personnel are adequately trained and knowledgeable of the plan, and in the event of an incident, implement the plan.
2. Maintain a list of the RQs for all products on that facility not listed in this policy.
3. Ensure all environmental incidents are acted upon according to this policy, are communicated in a timely manner to corporate/division staff, to emergency response personnel and appropriate reporting agencies (if required), and ensure follow-up reporting is completed in accordance with this policy.
4. Investigate environmental incidents, determine the root cause of the incident, and implement corrective action to prevent reoccurrence of a similar incident.
5. Ensure all spills, leaks and releases are recorded as follows:

- Spills above the RQ: Complete K-FORM-SHE-003 and forward it to the corporate environmental manager and division operations manager.
- Spills below the RQ: Maintain a log, as described in the "POLICY" section below.

The plant manager may delegate the duties listed above, but retains responsibility for their proper execution.

#### DEFINITIONS:

The following environmental incidents are typical of those that **must be reported**.

1. **Reportable Releases:** A spill, leak, or un-permitted release:

- Of oil, a refined petroleum product, or a hazardous substance or material of any quantity that enters a navigable waterway or a drainage pathway leading to a navigable waterway, could migrate to an adjacent property or waterway, or causes a film, sheen or discoloration;
- Of a hazardous substance or material in the form of a vapor, gas, or emission to the ambient air, or a solid or liquid to the ground surface in a quantity equal to or greater than the CERCLA Reportable Quantity (RQ) – (see attached tables for RQs of common materials managed at Koppers sites);
- Of Koppers products or materials during transport from a Koppers facility to a customer; and
- In Pennsylvania and Florida, of a hazardous substance or material of greater than 25 gallons to a containment area, structure or facility around an aboveground tank, or of greater than 5 gallons to a synthetic surface (asphalt or concrete), which prevents migration of the material to the environment.

2. **Other Environmental Incidents:**

- Discharge of a material in excess of the numerical limit allowed under a facility permit issued under the Clean Air Act, Clean Water Act, permit by rule, or other federal or state laws. An example is where a permitted concentration limit or mass loading limit is exceeded in a water discharge.
- Occurrences where specified conditions were not maintained as defined in a permit. An example is where a permit specified minimal pressure differential across a bag house filter is not maintained.
- Non-compliance with any legal requirement.
- Any malfunction of a pollution control device or monitor.
- Receipt of a notice of violation (NOV) or inspection report indicating compliance deficiencies.
- Any complaint regarding an environmental issue (odor, noise, etc.).

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The above lists, although illustrative, are not exhaustive. Any incident that causes or could cause the release of hazardous materials or non-compliance with regulations will be reported in a timely manner to the corporate environmental manager, division operations manager, and regulatory authorities, as required.

#### **BACKGROUND:**

Environmental regulations require that certain significant incidents, such as oil spills, chemical spills, unpermitted discharges of hazardous material to the environment, and non-compliance events be reported to specified agencies. Failure to report such incidents to agencies in a timely manner can subject Koppers or its employees to substantial civil penalties, or if the failure to report is willful or negligent, to both civil and criminal penalties. It is important, therefore, that Koppers employees be aware of incident reporting requirements and that responsibilities and procedures for reporting incidents be clearly established.

Table 1 contains a list of reportable quantities (RQs) for Koppers products. Table 2 contains a list of RQs for commonly used materials. These are provided for reference in the event of a spill and to assist in determining if reporting to an agency is required. Plants will develop lists of the RQs for products on that facility which are not listed herein.

In addition, Koppers management has an interest in understanding the compliance status of its facilities and ensuring proper corrective action is taken in the event of non-compliance. Therefore, this policy covers a wide range of environmental incidents, as described in the "Policy" section.

**Table 1**  
**Reportable Quantities for Koppers Products**

Commodity <sup>(1)</sup>	302 RQ (lbs) (2)	RQ (lbs)	RQ (gal)	WT %	Specific Gravity g / cc <sup>(3)</sup>	Lb/gal (3)	Limiting constituent (4)
Crude Coke Oven Tar	1	110	13	0.905	1.05	8.747	benzo(a)pyrene
Refined Chemical Oil	100	159	18	63	1.04	8.663	naphthalene
Creosote(P1/P13)	1	1	0.1	100	1.05	8.747	creosote
Creosote Solution(P2)	1	1	0.1	100	1.06	8.830	creosote
Coal Tar Pitch-Liquid	1	74	7	1.35	1.3	10.829	benzo(a)pyrene
Coal Tar Pitch-Pencil	1	74	7	1.35	1.3	10.829	benzo(a)pyrene
Carbon Black Base No. 1	1	109	12	0.92	1.13	9.413	benzo(a)pyrene
Pavement Sealer Base	1	111	12	0.9	1.1	9.163	benzo(a)pyrene
Modified Pavement Sealer Base	1	111	12	0.9	1.1	9.163	benzo(a)pyrene
Sodium Cresylate	100	244	24	41	1.2	9.996	cresols
Solvent Grade Coal Tar Naphtha	10	1000	124	1	0.97	8.080	benzene
Unwashed Coal Tar Naptha	10	1000	121	1	0.99	8.247	benzene
Crude Methylnaphthalene Fraction	100	1000	119	10	1.01	8.413	acenaphthene
Methylnaphthalene Fraction #2	100	714	83	14	1.03	8.580	acenaphthene
Naphthalene Still Residue	1	263	29	0.38	1.08	8.996	benzo(a)pyrene
Naphthalene	100	100	10	100	1.145	9.538	naphthalene
Topped Tar	1	100	11	1	1.1	9.163	benzo(a)pyrene
Methylnaphthalene Fraction	100	1000	119	10	1.01	8.413	acenaphthene
Crude Crystal Free Neutral Oil	10	500	60	2	1	8.330	benzene
Crude LBTB	10	1250	150	0.8	1	8.330	benzene
Bottom of Column (BOC)	100	714	83	14	1.03	8.580	acenaphthene
PAA-Flake	5000	5051	496	99	1.22	10.177	PAA
PAA-Molten	5000	5000	491	100	1.53	10.177	PAA

- (1) Any amount of these substances entering water within a stream or river, or migrating onto an adjacent property is reportable. Substances entering a storm water ditch and having the potential to reach a stream or river may be reportable. A Corporate Environmental Manager should be contacted for guidance when these circumstances exist.
- (2) Amounts were taken from 40 CFR Table 302.4 for the Limiting Constituent noted.
- (3) Values are for the applicable Commodity.
- (4) The hazardous constituent (of all constituents contained in the listed commodity) from which the RQ for the commodity is defined.

**Table 2**  
**Reportable Quantities (RQ's) for Common Materials**

Material <sup>(1)</sup>	RQ (lbs)	RQ (gals)	Comments
<b>Wood Treating Liquids:</b>			
Pentachlorophenol Solution		4 or 10 <sup>(2)</sup>	
CCA Solution		0.2 or 1.6 <sup>(3)</sup>	
Coal Tar Creosote / Creosote Solution		0.125	
<b>Oil and Petroleum By-Product Liquids:</b>			
Gasoline, Diesel Fuel, Lubricating and Hydraulic Oil, Other Oil		State and Local Regulations <sup>(4)</sup>	Call Corporate Environmental Manager
<b>Hazardous Waste:</b>			
CCA Waste (FO35)	1 <sup>(5)</sup>	0.2 <sup>(5)</sup>	
Creosote Waste (FO34)	1 <sup>(5)</sup>	0.1 <sup>(5)</sup>	
Pentachlorophenol Waste (FO32)	1 <sup>(5)</sup>	0.1 <sup>(5)</sup>	If material contains Creosote, RQ for Creosote Waste applies.
Hazardous Waste (Toxicity Characteristic or Listed RCRA Hazardous)	Based on the RQ for the hazardous constituent, or if material contains multiple hazardous constituents, the constituent with the lowest RQ applies <sup>(6)</sup>		May include, among other wastes, boiler and process water treatment chemical wastes, see MSDS information
Hazardous Waste (Ignitable, Corrosive, Reactive Characteristics)	100	10	May include, among other wastes, boiler and process water treatment chemical wastes, see MSDS information

- (1) Any amount of these substances entering water within a stream or river, or migrating onto an adjacent property is reportable. Substances entering a storm water ditch and having the potential to reach a stream or river may be reportable. A Corporate Environmental Manager should be contacted for guidance when these circumstances exist.
- (2) Use the lower RQ amount for concentrated unmixed (40%) pentachlorophenol in diesel oil solution; the higher RQ amount should be used for any mixed (10% or less) pentachlorophenol in diesel oil solution. Applicable state and local regulations for diesel oil should be evaluated.
- (3) Use the lower RQ amount for concentrated unmixed 50% or 60% CCA solutions; the higher RQ amount should be used for mixed (6% or less) CCA solutions.
- (4) If the material has not entered a drainage way, or under the given circumstances does not have the potential to migrate to an adjacent property or waterway, the Corporate Environmental Manager should be contacted immediately to assist in determining if the release is reportable to applicable agencies based on state and local regulations that may apply. The SPCC Plan should also be reviewed for additional information relating to a release of these materials. See Note (1) above.
- (5) This quantity applies, regardless of concentration.
- (6) See 40 CFR Table 302.4 for the constituent(s) for which the characteristic of Toxicity is based. The RQ applies to the waste itself, not merely the toxic contaminant contained in the waste. The Environmental Manager at CSG should be contacted for guidance.

# Environmental Incident Report

(to be used with K-SHE-014)

Facility:	Date and time of Incident:																																																												
<b>INCIDENT</b>																																																													
<b>Note: Immediately make notifications to NRC, State, Local and Koppers (as applicable)</b>																																																													
Type of Incident (check all that apply):  <input type="checkbox"/> Spill, leak or unpermitted release of oil or hazardous material to the air, ground or waterway (reportable)  <input type="checkbox"/> Spill or leak of a liquid or solid that is contained on process pad or by other secondary containment (Non-Reportable)  <input type="checkbox"/> Permit limit exceedance or circumstance where specified conditions in a permit were not maintained	<input type="checkbox"/> Complaints of any kind (e.g. odor, noise, et al)  <input type="checkbox"/> Notice of Violation/Letter of Noncompliance/ Agency Action, etc.  <input type="checkbox"/> Other – Noncompliance with any legal requirement, malfunction of a pollution control device or monitor, etc. (Explain below)																																																												
Location of Incident:																																																													
Description of Incident:																																																													
Materials Involved:																																																													
<table border="1" style="width: 100%; border-collapse: collapse; text-align: center;"> <thead> <tr> <th style="width: 35%;">Material/Constituent</th> <th style="width: 20%;">Quantity Released</th> <th style="width: 10%;">RQ</th> <th style="width: 15%;">Exceeded RQ?</th> <th style="width: 20%;">Media Affected (soil, water, air)</th> </tr> </thead> <tbody> <tr><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td></tr> </tbody> </table>		Material/Constituent	Quantity Released	RQ	Exceeded RQ?	Media Affected (soil, water, air)																																																							
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Assessment of Actual or potential hazards to human health or the environment:																																																													
<b>INVESTIGATION</b>																																																													
Acts or conditions causing incident (root cause):																																																													



**Environmental Incident Reporting  
(to be used with K-SHE-014)**

Koppers Inc.  
Form No. K-FORM-SHE-003  
Effective Date: 9/22/03  
Revision No. 3  
Page 2 of 2

**CORRECTIVE ACTION**

Containment and Cleanup actions:

Disposition of recovered material:

Material	Quantity	Disposal or Storage Location

Corrective action (describe what has been done or will be done to prevent recurrence:

**ADDITIONAL INFORMATION/RECOMMENDATIONS:**

**AGENCY CONTACT DUE TO THIS INCIDENT (Agency Inspector, Person issuing NOV):**

(Include date, time, name, title, agency and summary of inspection/visit:

Please sign here to indicate that you have reviewed your plant's SPCC Plan and updated it with any required information.

Name:

Date:

Attach photographs (if available) which show the incident area before, and after response action. Mark date and time of each photo.

# Photos: 0

Report completed by:

Title:

Date:

**PLEASE FAX OR EMAIL THIS FORM TO THE KOPPERS ENVIRONMENTAL DEPARTMENT**

# KOPPERS

## Capital Expenditure Pre-Authorization

Temporary CER No.

8228-8/10

Class (choose one)

Maintenance ☐Acquisition ☐Environmental ☒Productivity ☐

Date

30-Nov-06

Division No.

483

Estimated Completion Date

1-Mar-07

Plant Location No. / Name

9270/ Portland

Department

Requested By

T. J. Turner

Approved By

Date

Amount of Request

\$ 15,000

**Description of Project Scope (attach additional pages if necessary)**

This request provides for up front sampling and testing of the stormwater collected at the Portland Terminal. This pre-authorization will determine if Portland can meet the proposed NPDES permit limits and what technology upgrade will be necessary to do so. A CER will follow to design and build the selected technology.

**Summary of Justification (attach additional pages)**

Why do this project at all?

The Portland Terminal is in the process of renewing their NPDES permit. The proposed limits are being greatly reduced to meet new local standards for Willamette River tributaries. Koppers has tried to convince the Oregon DEQ that the standards are too stringent for industrial stormwater discharge but ODEQ continues to state they have the authority to implement them. It is presumed that even with a loosening of proposed standard that some post-collection treatment will be necessary prior to discharge.

Why do this this way?

An sampling and treatment study is necessary to find the right, cost-effective technology.

Why do this now?

The NPDES comment period expires November 30, 2006 and we intend to offer the study as part of determining final treatment limits.

**Authorization**

DIVISIONAL LEVEL

REVIEWED BY

DATE

(Operating Vice President / Operations Manager)

CONTROLLER

REVIEWED BY

DATE

ENGINEERING

REVIEWED BY

DATE

PURCHASING

REVIEWED BY

DATE

OTHER

REVIEWED BY

DATE

CHIEF FINANCIAL OFFICER

(if request is greater than \$100,000)

REVIEWED BY

Date

CHIEF EXECUTIVE OFFICER

(if request is greater than \$150,000 but less than \$500,000)

REVIEWED BY

Date

TREASURY DEPARTMENT

(if request is greater than \$150,000)

REVIEWED BY

Date

CORPORATE SECRETARY (BOD APPROVAL)

(if request is in program and greater than \$1,000,000 or not in the program and greater than \$500,000)

REVIEWED BY

DATE, Date

Koppers001261



November 21, 2006

Ms. Lynne M. Parechan  
Perkins Coie LLP  
1120 N.W. Couch Street, 10<sup>th</sup> Floor  
Portland, OR 97209

Subject: Proposal for Stormwater System Review and Analysis at Koppers Inc. Facility

Dear Ms. Parechan,

Thank you for the opportunity to provide this proposal for stormwater system review and analysis at the Koppers Incorporated facility at 7540 NW St. Helens Road in Portland, Oregon. The Portland office has staff with the technical expertise, experience, and availability to begin work on this project before November 30, 2006.

### **Project Understanding**

We have reviewed your request for proposal (RFP) provided to URS via email on November 20, 2006. Based on the review of this information and my telephone conversations with you it is our understanding that the Oregon Department of Environmental Quality (DEQ) is evaluating the Koppers facility NPDES discharge permit. The draft permit includes revised discharge limits for a variety of chemicals, many of which are present in on-site groundwater, which is known to be contaminated from former use of the site as a manufactured gas plant and oil gasification facility. Some of these chemicals have been detected during previous stormwater sampling events. Intrusion of contaminated groundwater into the on-site storm collection system could potentially result in exceedance of some of the discharge limits. Therefore, an on-site investigation of the facility is needed to assess whether contaminated groundwater is intruding into the stormwater collection system and mixing with stormwater in that system.

Ultimately, the objective of this project is to ensure that the facility can meet its discharge limits. The focus of this investigation, as described in the RFP, is to assess whether groundwater intrusion is a potential source of stormwater contamination via inflow and infiltration (I&I). However, because the facility handles materials that are known to contain carcinogenic polynuclear aromatic hydrocarbons (PAHs), consideration should be given to whether facility operations may be a potential source of PAHs as well as other chemicals that have facility-specific discharge limits.

### **Scope of Work**

The following scope of work is based on the five tasks identified in the RFP.

#### **Task 1. Prepare Stormwater Collection System Map and Technical Memorandum**

URS will conduct an on-site inspection of the facility to map the existing stormwater collection system. The objective of this activity is to identify and map the contributing areas to the system, the direction of flows, and system components (pipes, sumps, etc.) that could be potential locations for groundwater intrusion into the system. The results of this activity will be communicated in a technical memorandum, which will provide an explanation of how the system currently functions and identify potential groundwater intrusion locations. The technical memorandum will be accompanied by a figure showing the stormwater collection system layout.

The intent of this activity is not to produce a detailed "as-built" system diagram, but rather to map the system to a sufficient level of detail to identify potential locations for groundwater intrusion



into the system. As such, an important element of the task will be the identification of the invert elevation of subsurface system components, particularly those that are at a depth below ground surface where groundwater could be expected to be present.

The level of effort for Task 1 is based on the following assumptions:

- URS will participate in a project kick-off meeting at the facility to observe site conditions, verify the approach and objectives, and review the timeline for completion of the project.
- Koppers will provide URS with available paper and electronic copies of facility maps, as-builts, system diagrams, stormwater pollution prevention plan (SWPPP), or similar documents showing the existing facility layout and any components of the stormwater system that have been mapped or known to exist.
- URS will prepare a project-specific health and safety plan (HASP) to cover all on-site work by URS personnel.
- Confined space entry will not be required to complete this task.
- One person can map the stormwater collection system in two 10-hour days. If observation of the system during the project kick-off meeting suggests that more or less time would be required, this will be communicated to Koppers and Perkins Coie LLP.
- Koppers facility personnel familiar with the layout, construction, and operations of the facility will be available to URS field personnel during the system-mapping event.
- The project schedule is flexible and can allow the inspection to be conducted during weather conditions that are conducive to meeting the objectives of this task (e.g., actual stormwater flows may be needed to confirm that a particular pipe or sump is part of the stormwater system, and to confirm the flow direction).

#### **Task 2. Investigate and Determine Potential or Actual Groundwater Intrusion Sources**

URS will evaluate existing hydrogeologic information for the facility to estimate the depth to groundwater. The stormwater collection system map prepared as part of Task 1 will be compared to the estimated depth to groundwater. The objective of this task is to identify stormwater collection system components that have the potential to come in contact with contaminated groundwater and function as a point of groundwater intrusion. The results of this comparison will be communicated in the technical memorandum prepared as part of Task 1.

The level of effort for Task 2 is based on the following assumptions:

- Existing hydrogeologic information is available and of sufficient detail and scope to meet the objective of this task.
- Koppers or Perkins Coie LLP will provide the existing hydrogeologic information to URS.

#### **Task 3. Stormwater and Groundwater Analytical Data Comparison and Reporting**

URS will obtain existing stormwater and groundwater analytical data, collect additional stormwater samples for laboratory analysis (if necessary), compare and assess the data sets, and summarize the results of the assessment in a technical memorandum, which will include the tabulated data. The objective of this task is to assess whether chemicals are present in groundwater at concentrations and locations that would have the potential to contaminate stormwater within the stormwater collection system. Task 3 will be conducted after completion of Tasks 1 and 2.



Collection of additional stormwater samples at specific locations upstream of the facility's outfall to North Doane Creek may be necessary if existing facility stormwater data is limited to samples collected at the facility's outfall. Data from the outfall would represent an "average" of all facility stormwater within the system and would not likely assist in the identification of specific locations upgradient within the system where elevated stormwater constituents may be present as a result of groundwater intrusion into the system. Ideally, the results of Task 1 and 2, combined with the assessment of existing stormwater and groundwater data as part of Task 3, will result in the identification of specific locations within the stormwater collection system where intrusion of contaminated groundwater into the system is suspected. Locations for collection of upgradient stormwater samples would then be identified, as appropriate, to further assess whether groundwater intrusion is in fact occurring at the suspected locations.

The level of effort for Task 3 is based on the following assumptions:

- Existing stormwater and groundwater data is available and of sufficient detail and scope to meet the objective of this task.
- Koppers or Perkins Coie LLP will provide the existing stormwater and groundwater data to URS.
- Stormwater sample collection and analysis is not required at this time.

#### **Task 4. Prepare Recommendations to Allow Facility to Meet NPDES Discharge Limits**

Based on the results of Tasks 1 through 3, URS will prepare recommendations for stormwater collection system and storage discharge practices that would allow the proposed NPDES permit discharge limits to be met in a cost-effective manner. In particular, if the results of Tasks 1 through 3 confirm that intrusion of contaminated groundwater into the system is likely and would result in discharge limit exceedances, URS will identify options for practices or system modifications that would minimize groundwater intrusion to the extent necessary to allow the discharge limits to be met. Estimated costs to implement the practices or modifications will be prepared.

The level of effort to complete this task cannot be accurately determined at this time, but would be based on the following assumptions:

- The level of effort to complete this task will depend on the outcome of Tasks 1 through 3.
- URS will identify potential options for practices or system modifications, and provide a general description of the practices and/or modifications.
- A detailed work plan describing recommended practices will not be prepared unless requested by Koppers.
- A detailed engineering design (e.g., drawings or engineering specifications) of system modifications will not be prepared unless requested by Koppers.

#### **Task 5. Prepare Summary Analysis and Recommendations Report**

Following completion of Tasks 1 through 4, URS will prepare a summary report that will communicate the overall findings of the investigation and recommend procedures or system modifications to allow the discharge limits to be met. URS will prepare a draft report for submittal to Koppers and Perkins Coie LLP.



The level of effort to complete this task cannot be accurately determined at this time, but would be based on the following assumptions:

- The level of effort to complete this task will depend on the outcome of Tasks 1 through 4.
- We assume that summary report review comments will be relatively minor and a significant level of effort will not be necessary to address comments and finalize the report.

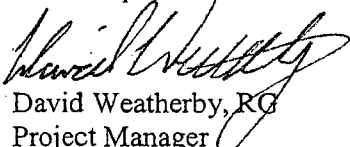
#### **Estimated Cost**


Based on the scope of work described above we have prepared an estimated cost to complete Tasks 1 through 3. We have not prepared a cost estimate for Tasks 4 and 5 because the level of effort to complete these tasks will depend on the results of previous tasks. Tables 1 and 2 (attached) provide a cost estimate summary and cost estimate detail to complete these tasks. The estimated cost to complete Tasks 1 through 3 is **\$13,000**. Labor and expenses will be charged on a time and materials basis in accordance with our 2006 fee schedule.

If you have any questions or comments please contact David Weatherby (503-948-7219). Thank you again for this opportunity.

Sincerely,

URS Corporation

  
David Weatherby, RG  
Project Manager

  
Gary Newbore, VP  
Office Manager

**TABLE 1**  
**COST ESTIMATE SUMMARY**  
**Koppers Incorporated Stormwater System Review and Analysis**

Task		Hours	URS Labor	Other Direct	Total
1	Prepare Stormwater Collection System Map and Technical Memorandum	74	\$5,473	\$280	\$5,753
2	Investigate and Determine Potential or Actual Groundwater Intrusion Sources	40	\$3,049	\$0	\$3,049
3	Stormwater and Groundwater Analytical Data Comparison and Reporting	50	\$3,739	\$0	\$3,739
4	Prepare Recommendations to Allow Facility to Meet NPDES Discharge Limits		To be determined		
4	Prepare Summary Analysis and Recommendations Report		To be determined		
TOTALS		164	\$12,260	\$280	\$12,540
TOTAL ESTIMATE COST					<u>\$13,000</u>

**TABLE 2**  
**COST ESTIMATE DETAIL**  
**Koppers Incorporated Stormwater System Review and Analysis**

Client: Perkins Coie LLP

Prepared by: D. Weatherby  
Date: 11/21/06

Task No.	Personnel/Activities/Item	Personnel	Unit Cost	Quantity	Cost	Totals	Comments/Assumptions
		Unit					
1	<u>Prepare Stormwater Collection System Map and Technical Memorandum</u>						
	URS Labor						
	Project Manager	Weatherby	\$95.00	14	\$1,330.00		1 site visit for project kick-off meeting (4 hrs); project setup (2 hrs); QA review of tech memo (4 hours); communication with client (4 hrs)
	Scientist	Baker	\$67.00	50	\$3,350.00		Attend kick-off meeting (4 hrs); prepare HASP (6 hrs); conduct facility inspection (2 10-hr days); prepare technical memorandum (10 hrs)
	CADD	Ruff	\$67.00	6	\$402.00		Prepare stormwater collection system figure
	Project Administrator	Hamilton	\$58.00	4	\$232.00		Project administrative support/job setup
	TOTAL LABOR			74		\$5,314	
	3% Communication Fee					\$159	
	Materials/Expenses						
	Vehicle Rental	days	\$60.00	3	\$180.00		
	Equipment/supplies	lump sum	\$100.00	1	\$100.00		
	TOTAL MATERIALS/EXPENSES					\$280	
TASK 1 TOTAL COST					\$5,753		
2	<u>Investigate and Determine Potential or Actual Groundwater Intrusion Sources</u>						
	URS Labor						
	Project Manager	Weatherby	\$95.00	10	\$950.00		Information review; communication with client
	Scientist	Baker	\$67.00	30	\$2,010.00		Review existing information
	TOTAL LABOR			40		\$2,960	
	3% Communication Fee					\$89	
TASK 2 TOTAL COST					\$3,049		
3	<u>Stormwater and Groundwater Analytical Data Comparison and Reporting</u>						
	URS Labor						
	Project Manager	Weatherby	\$95.00	10	\$950.00		QA tech memo; communication with client
	Scientist	Baker	\$67.00	40	\$2,680.00		Review existing information and prepare tech memo
	TOTAL LABOR			50		\$3,630	
	3% Communication Fee					\$109	
TASK 3 TOTAL COST					\$3,739		





# CERTIFICATE OF ANALYSIS

CLIENT: Koppers Industries, Inc.  
ATTN: T.J. Turner  
7540 NW St. Helens Road  
Portland OR, 97210-3663

PROJECT NAME: Stormwater Tanks

PHONE: (503) 286-3681  
FAX: (503) 285-2831

SUBMITTED: 11/21/06 08:51

REPORT DATE: 11/22/06 09:40 REPORT NUMBER: 6112104 PAGE: 1 OF 1

CI SAMPLE	CLIENTS ID#	DATE	TIME	MATRIX
6112104-01	Stormwater Tanks	11/21/2006	0700	Water

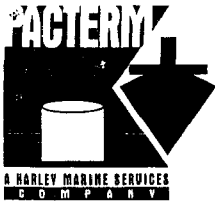
SAMPLE/ ANALYSIS	METHOD	PARAMETER	RESULTS	UNITS	DETECTION LIMIT	TECH	DATE/TIME
6112104-01	SAMPLE ID: Stormwater Tanks						
General Bench Analysis							
O & G, TOTAL (HEM)	EPA 1664	TOTAL OIL AND GREASE	3.0	mg/L	2.0	JRW	11/21/2006 14:27

This report may not be reproduced except in full.

Authorized for Release By:

*Charles Morrow*  
Charles Morrow - Laboratory Director

COLUMBIA INSPECTION, INC 7133 N. Lombard, Portland, OR 97203 Ph:(503) 286-9464 Fax:(503) 286-5355 E-mail:cilabqa@ColumbiaInspection.com



## PACIFIC TERMINAL SERVICES, INC.

A HARLEY MARINE SERVICES, INC. COMPANY

910 S.W. Spokane Street, Seattle, Washington 98134  
P.O. Box 24005, Seattle, Washington 98124-0005  
Tele. (206) 628-0051 Fax (206) 628-0293  
[www.harleymarine.com](http://www.harleymarine.com)

July 28, 2003

Koppers Industries  
7540 NW St. Helens Road  
Portland, OR 97210  
Attn: TJ Turner

Dear TJ,

I have attached a copy of the resulting paperwork from our facility spill drill conducted at the Pacific Terminal Services Portland facility on July 24, 2003.

We were happy that Kopper's was able to attend and would like to thank you for your participation in the drill.

Should you have any questions or need anything further please feel free to contact me.

Cordially yours.

Tina F. Garrett  
Terminal Superintendent

cc: J. MacCinowski, K-1800

PACIFIC TERMINAL SERVICES, INC.  
OIL SPILL RESPONSE PLAN

RECOVERED OIL:

Recovered liquid oil will be transported by contracted barge, tank truck and/or vacuum truck with all applicable manifests, labeling and placarding. The liquid oil will be transported to Spencer Environmental in Portland for recycling.

HAZARDOUS WASTE:

The oily wastes, including oily water, oily debris, oily soil and used personal protective equipment (PPE), may not be designated as dangerous or extremely hazardous wastes in which case they will be treated as solid wastes. These wastes will be transported by the Primary Response Contractor, by truck, with all applicable manifests, labeling and placarding, as applicable.

1. Oily water will be transported to Spencer Environmental, Portland, OR to be recycled.
2. Oily debris will be transported to Rabanco, Roosevelt, WA to be land filled.
3. Used PPE will be transported to Recomp of Washington, Bellingham, WA to be incinerated.

SOILD WASTE:

Oily gravel, soil and/or sand debris may be approved, after appropriate testing, for incineration at Recomp of Washington, Bellingham, WA or at T.P.S., Portland, OR.

The disposal plan is based on the "Oiled Debris Disposal Plan" in Appendix III of the Oregon Oil and Hazardous Materials Spill Contingency Plan.

PACIFIC TERMINAL SERVICES, INC.  
OIL SPILL RESPONSE PLAN

One representative grab sample will be taken from each type of oily waste collected.

Samples of soil and water will be analyzed for ignitibility, corrosivity, reactivity and toxicity according to accepted EPA test methods for hazardous waste characterization.

### INTERIM STORAGE

The primary interim storage site will be located on open paved areas at the PTSI facility. Interim storage of oily debris will be held at the facility for no more than 90 days. Interim storage areas will be designed to use the best achievable technology to protect the environment and human health. Ground water measures approximately 15 feet down through sandy soil (dredged fill) and surface water run offs through the facility oil/water separation system before being discharged to the Willamette River. The area is not considered an endangered species habitat.

The interim storage areas will be protected from contamination and will protect human health by the following protective measures:

1. The areas will be secured from free public access by the Northwest Natural Gas Company 24-hour security personnel and facility fencing.
  2. The interim storage areas will be bermed and lined with visqueen sheets 10 millimeters thick, without joints, placed on underfelt of a thickness adequate to protect the visqueen from surface irregularities, rocks and jagged edges, with the edges weighted with stones or soil and with a reinforced access area of packed sand for vehicles. Visqueen or tarps will be used to protect the wastes from rain. Interim storage will be in place before debris will be transported to the site.
  3. Following the removal of the last of the debris, the area will be returned, to the maximum extent feasible, to its original condition.
- 2 dropboxes have been ordered from Baker Tanks.  
One will be on-site and one will be at Transversal

PACIFIC TERMINAL SERVICES, INC.  
OIL SPILL RESPONSE PLAN

APPENDIX K  
PORTLAND FACILITY

DRAFT

Oil Spill Response  
Disposal Plan

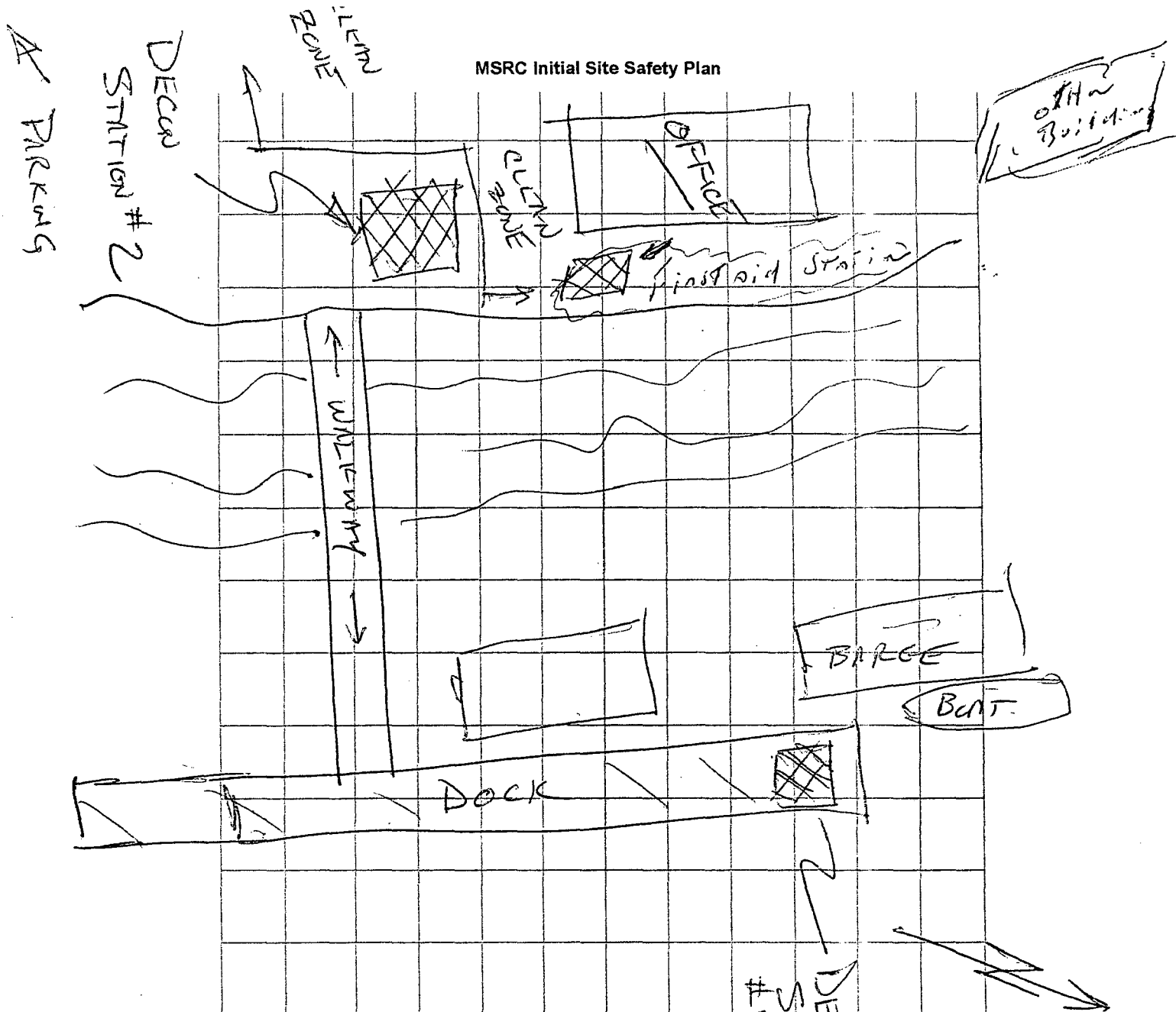
This disposal plan covers the handling, storage, transportation and disposal of oily water and oily debris recovered from spilled petroleum oil. Pacific Terminal Services, Inc. (PTSI) will recover the maximum feasible amount of marine fuel oil, bunker C, and/or diesel oil spilled into the Willamette River on 7/24/03 (date) from the PTSI Portland facility at 7900 NW St. Helens Road, Portland, Oregon. In addition, an unknown quantity of contaminated solid debris may be recovered during the cleanup. PTSI will abide by all applicable federal, state and local laws and regulations in implementing this plan.

SAMPLING & TESTING:

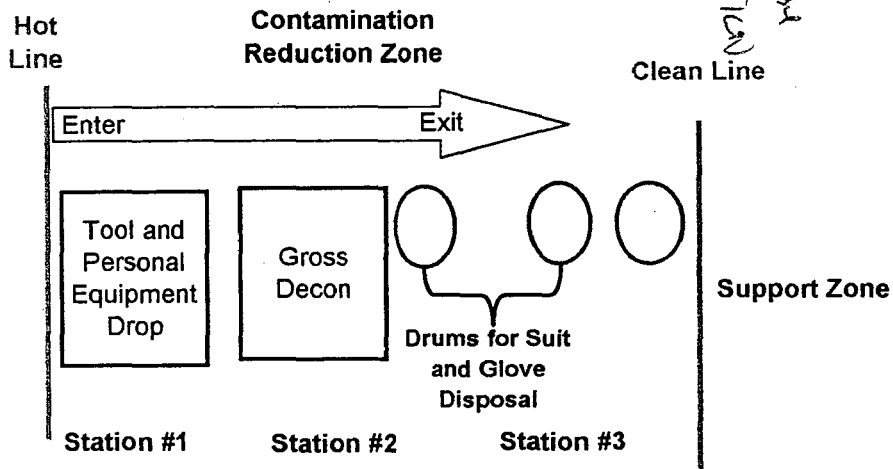
The purpose of sampling and testing is to evaluate the oil contamination of recovered oily water, oily sand, and oily debris to characterize these wastes as dangerous or hazardous according to state and federal regulations to ensure that designation, treatment and/or disposal complies with applicable regulations.

Samples will be grab samples taken from the interim storage areas placed in cleaned and dried containers (jars or bottles), which will be immediately sealed and labeled with sampling date, time, location and sample identification. After samples are taken they will be transported in iced coolers under Chain of Custody procedures to ~~Pacific Northern Analytical, Redmond, WA~~

~~Columbia Analytical~~  
Columbia Inspection - 7133 N Lombard - Portland, OR



**Decontamination:**



Report All Injuries, Illnesses or Near Misses Incidents

# Action Levels & Obser Log pg 14

Action Levels:					Time reading taken:						
	Evacuation	Level B (Supplied Air)	Level C (Air-Purifying)	Level D (No Respiratory Protection)	1st	2nd	3rd	4th	5th	6th	7th
LEL	At or above 10%	Below 10%	Below 10%	Below 10%	0830 AM	0930 AM	10:30 AM	11:00 AM			
Oxygen	At or above 22.5%	At or below 19.5%	Above 19.5%	Above 19.5%	08:19% above	09:00% 19.5%	10:00% 19.5%	11:00% 19.5%			
H <sub>2</sub> S	At or above 15 ppm	At or above 10 ppm	N/A	Below 10 ppm	0	0	0	0			
Benzene	Only required w/ respiratory device absence or	At or above 50 ppm	10 - 49 ppm full-face; 0.5 - 9 ppm half-face	Below 0.5 ppm	0	0	0	0			
CO	At or above 25 ppm	Above 25 ppm	N/A	Below 25 ppm	0	0	0	0			
Latitude in Minutes & Seconds			N°								
Longitude in Minutes & Seconds			W°								
Relative Geographical Location:					Wind is coming from:		West				
On Scene Weather & Temperature:			60-65 Light Wind		Current is flowing to:		East/West				
Oil Characteristics & Color:			Dark Brown		Water Temperature:		50-55				
Comments:											
S/N or ID of 4 Gas Meter		S/N or ID of Benzene Monitor		Team Leader Signature		Date / Time Start		Date / Time Completed			
						7/24/2002 @ 0830		7/24/2002 @ 11:30 AM			

**CONTROL MEASURES (Con't):**☐ Facilities provided per OSHA 1910.120(n)☒ Facilities provided per OSHA 1910.120(m)

☒ Will be provided per OSHA 1910.120(I)

☒ Booming ☒ Skimming ☒ Vac. trucks ☒ Pumping ☐ Excavation  
☐ Heavy equip. ☒ Sorbent Pads ☐ Patching ☐ Hot Work ☐ Shoring  
☐ Appropriate permits issued  
☐ Other (describe): On water work operations

☒ Verified site workers trained per OSHA 1910.120

Incident Command: Tony Esquivel Radio/Telephone: 206-571-5483

Radio/Telephone:

Radio/Telephone: 200-255-5010

Radio/Telephone:

☐ Alarm system:

☐ Evacuation Plan

☒ First aid locations: See Attached Map

<input checked="" type="checkbox"/> Hospital:	_____	Phone _____
<input type="checkbox"/> Ambulance	_____	Phone _____
<input type="checkbox"/> Air Ambulance	_____	Phone _____
<input checked="" type="checkbox"/> Fire:	_____	Phone _____
<input type="checkbox"/> Police:	_____	Phone _____

☐ Date/Time completed: \_\_\_\_\_ By: \_\_\_\_\_

☐ Hazards discussed (attach training documentation)

☐ Other topics: \_\_\_\_\_

Date Plan Completed: 7/24/2003 By: KPA



# SAFETY AND HEALTH EMERGENCY RESPONSE PLAN

APPLIES TO SITE: Portland Gasco River

DATE/TIME: July 27/03 0800

PRODUCTS: Dunkin 302 (ATTACH MSDS)

INCIDENT: Oil Spill Barge Loading (Morgan J)

## SITE CHARACTERIZATION:

☒ Marine Vessel ☐ Pipeline ☐ Storage facility  
☐ Truck/Rail car ☐ Other \_\_\_\_\_

## Water

☐ Shoreline ☐ Wetlands ☐ Muddy ☐ Ocean  
☐ Rocky ☐ Sandy ☐ Bay ☐ Other \_\_\_\_\_  
☒ River ☐ Creek ☐ Canal

## Land

☐ Mountains ☐ Hills ☐ Brushland ☐ Forest ☐ Grassland  
☐ Other \_\_\_\_\_

## Use

☐ Public ☐ Government ☐ Residential ☒ Commercial  
☐ Recreational ☐ Industrial ☐ Farmland ☐ Other \_\_\_\_\_

## Weather

☐ Temp 65 F ☐ Wind 11 mph ☐ Rain  
☐ Snow ☐ Ice ☐ Other Sunny

## Pathways for Dispersion

☒ Air ☒ Water ☐ Land ☐ Other \_\_\_\_\_

## Site Hazards (See Attachment-Site Hazards for more information)

☒ Boats  
☒ Chemical Hazard  
☐ Cold Stress  
☐ Confined Spaces  
☐ Drowning  
☐ Drum Handling  
☐ Fire/Explosion  
☐ Hand/power tools  
☒ Heat stress  
☐ Heavy Equipment  
☐ Lifting

☐ Motor Vehicles  
☐ Noise  
☐ Poor Visibility  
☒ Pump, hoses  
☐ Slips, trips, falls  
☐ Steam, hot water  
☐ UV Radiation  
☐ Weather  
☒ Wildlife/plants  
☐ Other: \_\_\_\_\_

## Air Monitoring

%LEL 0 %O<sub>2</sub> 0 PPM Benzene 0 PPM H<sub>2</sub> 0  
☐ Other (specify) \_\_\_\_\_  
☐ See Attachment - Monitoring Program

## CONTROL MEASURES:

### Engineering Controls

☐ Source of release secured ☒ Valve(s) closed ☒ Facility shut down  
☐ Site secured ☐ Energy sources locked/tagged out  
☐ Other \_\_\_\_\_

### Personnel Protective Equipment (PPE)

☐ Impervious suits ☐ Respirator  
☐ Inner gloves ☐ Eye Protection  
☐ Outer gloves ☒ Personal Flotation  
☐ Boots ☒ Other Rain Gear  
☐ Hard Hats

### Decontamination

☐ Stations established (see Site Map for location and Decontamination Attachment)

\$56,849.73 \$ 9,500.00 \$ 66,349.73

Home Base (12)	State (2)	Storage (13)	Latitude (10)	Longitude (10)	Cost per Unit	Cost per Day	One-time Charge	TOTAL COST
AAAAAAAAAAAA	AA	AAAAAAAAAAAA	AAAAAAAAAA	AAAAAAAAAA				

Ranier	OR	FOSS	46*05.35N	122*55.69W		\$ 75.00		
Portland	OR	Freds	45*37.15N	122*48.21W		\$ 75.00		
Portland	OR	CRC	45*00.17N	122*54.55W		\$ 10.00		
Longview	WA				\$ 950.00	\$11,400.00		
Longview	WA				\$ 950.00	\$11,400.00		
Longview	WA					\$ 250.00		
Longview	WA				\$ 45.50	\$ 7,644.00		
Portland	OR	Trailer	47-35.00 N	122-20.80 W		\$ 4,700.00		
Astoria	OR				\$ 65.00	\$ 2,340.00		
Everett	WA				\$ 65.00	\$ 3,120.00		
						\$ 2,160.00		
						\$ 2,696.48		
Portland	OR					\$ 25.00		
Portland	OR	CRC	45*00.17N	122*54.55W		\$ 4.25		
Portland	OR					\$ 300.00		
Portland	OR					\$ 200.00		
Seattle	WA				\$ 35.00	\$ 2,520.00		
Portland	OR	CRC	45*00.17N	122*54.55W		\$ 10.00		
Portland	OR	Spill Trailer	45*00.17N	122*54.55W		\$ 10.00		
						\$ 2,000.00		
						\$ 550.00	\$ 550.00	
						\$ 8,700.00	\$ 8,700.00	
Portland	OR				\$ 1.50	\$ 150.00		
						\$ 30.00	\$ 250.00	
Longview	WA					\$ 150.00		
Longview	WA				\$ 45.50	\$ 4,914.00		
Longview	WA				\$ 55.50	\$ 666.00		

					7,440	648	60	47
OSRO (6)	Resource (12)	Kind - Type (6)	Identification (24)	Specification (12)	Recovery BPD EDRC (8)	Liquid Storage bbls (10)	Boom Length (7)	Personnel (5)
AAAA	AAAAAAAAAAAAA	AAAAAA	AAAAAAAAAAAAAAAAAAAAAAAAAAAA	AAAAAAAAAAAAA	AAAAAAA	AAAAAAAAAA	AAAAAAA	AAAAA
CRC	R-VS-34	WB-3	OSRV "MFSA 1" (20-200)	34' Kvichak	3,720	24		2
CRC	R-VS-34	WB-3	OSRV "Alliance" (22-202)	34' Kvichak	3,720	24		2
CRC	T-SR-30		Spill Reponse Trailer (40-)	30'	0			
CCS			80 BBL Vacuum Truck			80		
CCS			120 BBL Vacuum Truck			120		
CCS			Spill Reponse Trailer (40-)					
CCS			Response Techs					14
MSRC	R SWB		SWB123	Shallow Water Barg	0	400	60	
MSRC			Responders					3
MSRC			Personnel					4
MSRC			Arm Person					2
MSRC			Diversified Personnel					4
CRC			160 Hydraulic Pump					
CRC	T-1		1 ton service truck (51-937)	1989 Ford	0			
HMS	OTB-PDX		Lucy Sondland & Lily 101					
HMS	OTB-PDX		Sarina					
HMS	OTB-SEA		Personnel					6
CRC	V-WB-14	SB-3	14' Skiff (28-210)	14' skiff w/ 15hp	0			
CRC	V-WB-14	SB-3	14' Skiff (28-211)	14' skiff w/ 15hp	0			
MSRC			Per diem (lodging, food, etc.)					
MSRC			Contract Crane for SBS Launch	one time cost				
MSRC			Decon Cost	one time cost				
CRC			2000' boom					
			Baker Tank					
CCS			Workboat					
CCS			Personnel-beach clean up crew					9
CCS			Personnel-beach clean up crew					1

1. Incident Name <i>Portland Spill</i>	2. Operational Period (Date / Time) From: <i>7/24/03 0900</i>	INCIDENT OBJECTIVES ICS 202-OS									
3. Overall Incident Objective(s) <ol style="list-style-type: none"> <li>1. Ensure the Safety of Citizens &amp; response personnel</li> <li>2. Manage coordinated response effort</li> <li>3. Maximize protection of environmentally sensitive areas</li> <li>4. Contain &amp; Recover spilled material</li> <li>5. Keep stakeholders informed of response activities</li> </ol>											
4. Objectives for specified Operational Period <ol style="list-style-type: none"> <li>1. Contain <del>oil</del> &amp; recover oil</li> <li>2. Deploy resources at GRP's</li> <li>3. Ensure safety briefings conducted for all personnel at all sites</li> </ol>											
5. Safety Message for specified Operational Period <p style="margin-left: 40px;"><i>clothing</i></p> <p>Level D for all personnel - standard rain gear</p> <p>Follow all water safety rules</p>											
Approved Site Safety Plan Located at: <i>Office</i>											
6. Weather      See Attached Weather Sheet											
7. Tides / Currents      See Attached Tide / Current Data											
8. Time of Sunrise      Time of Sunset											
9. Attachments (mark "X" if attached) <table style="width: 100%; margin-top: 10px;"> <tr> <td><input type="checkbox"/> Organization List (ICS 203-OS)</td> <td><input type="checkbox"/> Medical Plan (ICS 206-OS)</td> <td><input type="checkbox"/> Resource at Risk Summary (ICS 232-OS)</td> </tr> <tr> <td><input type="checkbox"/> Assignment List (ICS 204-OS)</td> <td><input type="checkbox"/> Incident Map(s)</td> <td><input type="checkbox"/> _____</td> </tr> <tr> <td><input type="checkbox"/> Communications List (ICS 205-OS)</td> <td><input type="checkbox"/> Traffic Plan</td> <td><input type="checkbox"/> _____</td> </tr> </table>			<input type="checkbox"/> Organization List (ICS 203-OS)	<input type="checkbox"/> Medical Plan (ICS 206-OS)	<input type="checkbox"/> Resource at Risk Summary (ICS 232-OS)	<input type="checkbox"/> Assignment List (ICS 204-OS)	<input type="checkbox"/> Incident Map(s)	<input type="checkbox"/> _____	<input type="checkbox"/> Communications List (ICS 205-OS)	<input type="checkbox"/> Traffic Plan	<input type="checkbox"/> _____
<input type="checkbox"/> Organization List (ICS 203-OS)	<input type="checkbox"/> Medical Plan (ICS 206-OS)	<input type="checkbox"/> Resource at Risk Summary (ICS 232-OS)									
<input type="checkbox"/> Assignment List (ICS 204-OS)	<input type="checkbox"/> Incident Map(s)	<input type="checkbox"/> _____									
<input type="checkbox"/> Communications List (ICS 205-OS)	<input type="checkbox"/> Traffic Plan	<input type="checkbox"/> _____									
10. Prepared by: (Planning Section Chief)		Date / Time									
INCIDENT OBJECTIVES											

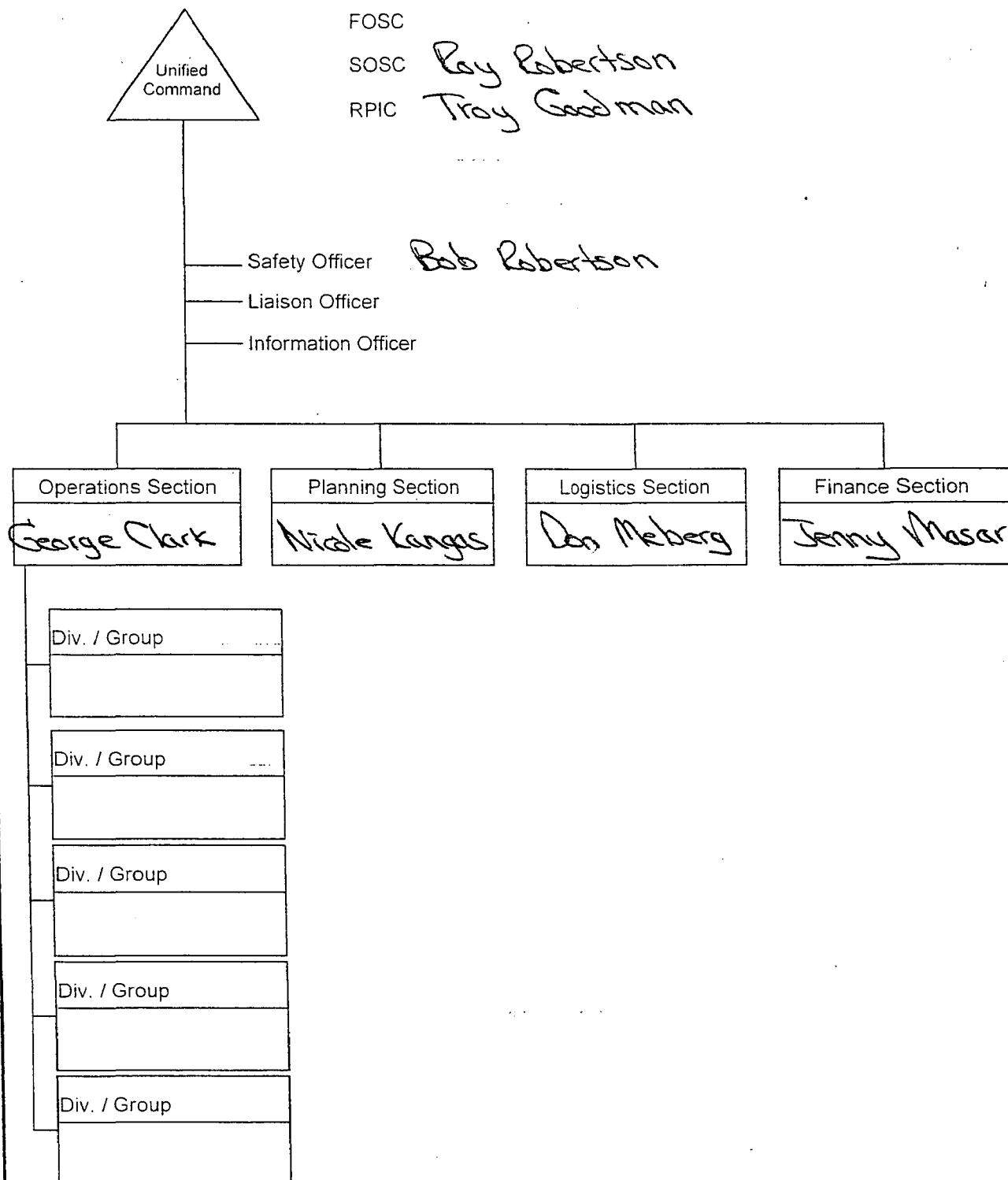
June 2000

ICS 202-OS



1. Incident Name <b>Portland Spill</b>	2. Prepared by: (name) <b>Tina Garrett</b> Date: <b>7-24-03</b> Time: <b>0800</b>	INCIDENT BRIEFING ICS 201-OS (pg 3 of 4)
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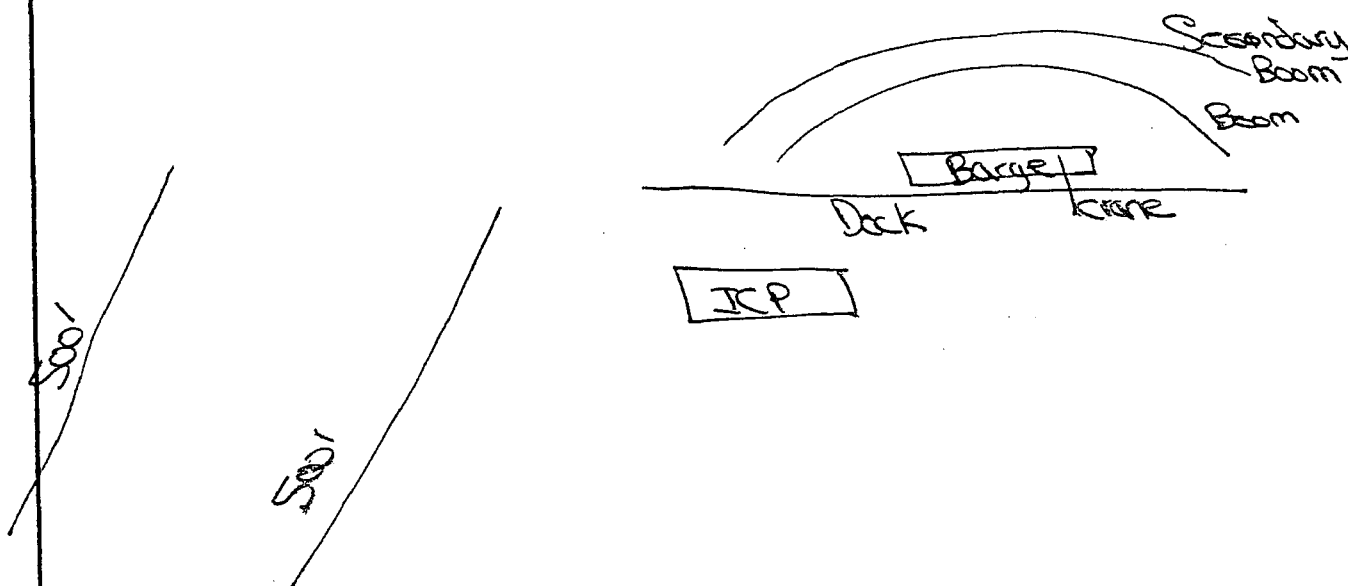
6. Current Organization





1. Incident Name <b>Portland Spill</b>	2. Prepared by: (name) <b>Tina Garrett</b> Date: <b>7-24-03</b> Time: <b>0800</b>	INCIDENT BRIEFING ICS 201-OS (pg 1 of 4)
---	--	---

3. Map / Sketch (Include maps drawn here or attached, showing the total area of operations, the incident site/area, overflight results, trajectories, impacted shorelines, or other graphics depicting situational and response status)

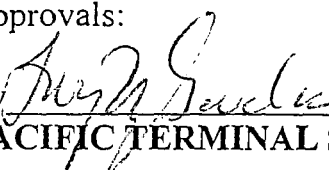





PACIFIC TERMINAL SERVICES, INC.  
OIL SPILL RESPONSE PLAN

This plan may be amended as necessary to ensure compliance with all applicable laws and regulations. Amendments may occur only upon mutual agreement of PTSI, The U.S. Coast Guard and/or the Oregon Department of Environmental Quality.

Approvals:

By  (Facility OSC)  
PACIFIC TERMINAL SERVICES, INC.

Date: 7/24/03

By  (State OSC)  
~~OREGON DEPARTMENT OF ENVIRONMENTAL QUALITY~~  
WA ecology

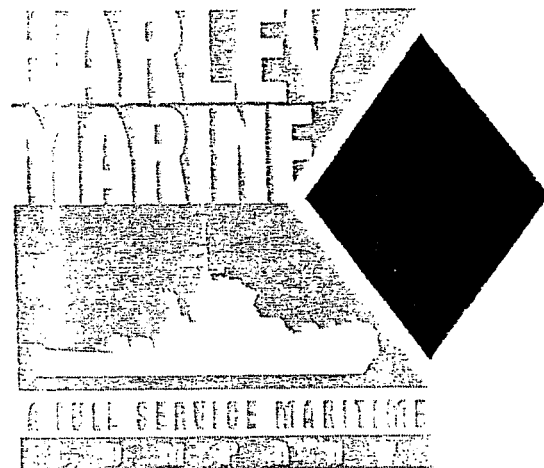
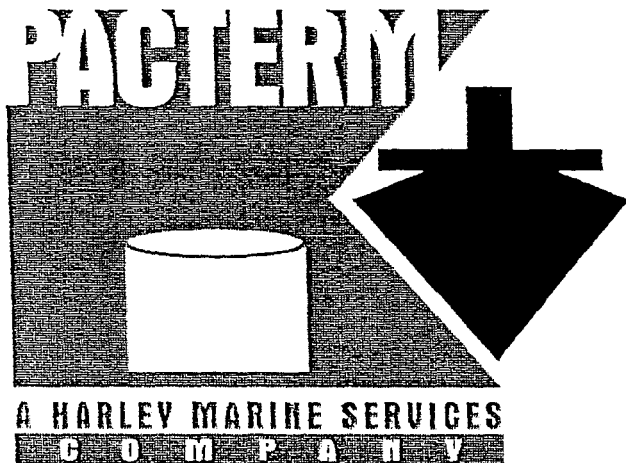
Date: 7/24/03

By \_\_\_\_\_ (Federal OSC)  
UNITED STATES COAST GUARD

Date: \_\_\_\_\_

*Harley Marine Services, Inc.  
Pacific Terminal Services, Inc.*

*July 24<sup>th</sup>, 2003  
Spill Response Exercise*



***PARTICIPANT and OBSERVER GUIDE***

List of Acronyms used in this guide and in the Exercise

OR	Oregon State
MSRC	Marine Spill Response Corporation
NWFF	NWFF Environmental Company
ICS	Incident Command System
NPREP	National Preparedness for Response Exercise Program
SMT	Spill Management Team
OR DEQ	Oregon Department of Environmental Quality
ODF&W	Oregon Department of Fish & Wildlife
USCG	United States Coast Guard
MSO	USCG Marine Safety Office Portland
MAREX	Marine Exchange of Portland
NRC	National Response Center (federal reporting)
OERS	OR Emergency Response System (state reporting)
ICP	Incident Command Post
IC	Incident Commander
FOSC	Federal On Scene Coordinator
SOSC	State On Scene Coordinator
LOSC	Local On Scene Coordinator
UCS	Unified Command System of Incident Command
COTP	USCG Captain of the Port for Portland
OCMI	USCG Officer in Charge of Marine Inspections
NOP	Next Operational Period
NOAA	National Atmospheric and Oceanic Administration
SSC	Scientific Support Coordinator
ICS	Incident Command System
FOG	USCG ICS Field Operations Guide for Oil Spill (2001 version)
NIIMS	National Interagency Incident Management System ( the national standard for ICS adopted by the USCG in the FOG)
OPA 90	Oil Pollution) Act of 1990 ( federal legislation governing oil spill response
RP	Responsible Party (entity responsible for spilled oil under OPA 90)
RRT	Regional Response Team (regional agency oil spill panel)
Area Plan	NW Regional State/federal Oil Spill Contingency Plan
SCAT	Shoreline Cleanup and Assessment Team
NRDA	Natural Resource Damage Assessment
IWRC	International Wildlife Recovery Center
CRC	Clean Rivers Cooperative

## 1. Summary

Harley Marine Services and Pacific Terminal Services are conducting a Table Top Training Exercise on 24 July August 9, 2003 in Portland, OR. The Exercise will be a Table Top Exercise of the PTSI Spill Management Team (SMT), with an emphasis on protocols for resource management contained in the National Interagency Incident Management System (NIIMS)-based Incident Command System (ICS) as they apply to the HMS Vessel Response Plan and the PTSI Oil Spill Contingency Plan. This exercise will be a Table Top exercise, with limited deployment of field resources. The Exercise will follow a pre-scripted scenario and include prepared inputs throughout the duration of the Exercise, under the direction of the Exercise Director.

This document contains information for persons who will participate in or observe the exercise. An additional exercise plan has been prepared for the Exercise Staff which contains the details of the exercise scenario. A listing of all scheduled exercise participants, staff and invited observers is included in Section 14 of this document. ***If you are an exercise Participant or Observer, please read this entire document carefully before you arrive at the exercise.***

HMS is a Vessel Response Plan holder for federal and state laws in both Oregon and Washington. PTSI is an Oil Spill Contingency Plan holder for purposes of meeting applicable Oregon laws. This Exercise has been planned and designed following the NPREP guidelines developed by the United States Coast Guard (USCG), and has included both Oregon Department of Environmental Quality (OR DEQ) and USCG Marine Safety Office (MSO) Portland in the development of this Exercise.

The Exercise is an announced exercise. **Sign in will be open at 6:45 AM, and the exercise commences at 7:00 AM. Exercise activities will conclude by 2:00 PM on the day of the exercise.** There will be up to 60 people at the facility the morning of the exercise, so it will take a while to check everyone in. To avoid the crowds at the check in, please plan to arrive in plenty of time to get checked in.

Oregon (OR DEQ and ODF&W), Washington (DOE), and federal (USCG) agency personnel have been invited to participate in the Exercise at the PTSI ICP, in a Unified Command structure.

The Exercise will be managed and administered by Harley Marine Services, Inc. An Exercise Evaluation Report will be produced for HMS and PTSI following the Exercise.

### From The South

I-5 North

Take I-405 NORTH RAMP towards CITY CENTER/BEAVERTON(US 26 W).

Merge onto I-405 NORTH RAMP.

Merge onto I-405 N.

Take the US-30 WEST exit, exit number 3, on the left towards ST. HELENS.

Merge onto US-30.

US-30 becomes NW YEON AVE.

NW YEON AVE becomes NW ST HELENS RD/US-30.

### From Downtown Portland:

Start out going West on NW COUCH ST towards NW 5TH AVE by turning left.

Turn LEFT onto NW BROADWAY.

Turn RIGHT onto W BURNSIDE ST.

Take the I-405 NORTH ramp towards US 30 WEST.

Take the I-405 NORTH ramp.

Merge onto I-405 N.

Take the US-30 WEST exit, exit number 3, on the left towards ST. HELENS.

Merge onto US-30.

US-30 becomes NW YEON AVE.

NW YEON AVE becomes NW ST HELENS RD/US-30.

If you need further instructions or help finding the facility on the day of the Exercise, or need to make actual emergency contact with participants during the day of the Exercise, please call :

**(503) 240-3452**

### **2.1 Persons with special needs**

The PTSI facility has handicap access for wheelchairs. If you have additional special needs, please contact Tina Garrett at (503) 240-3452 to make arrangements as required prior to the day of the exercise.

### 3. Actions to be taken upon arriving

Upon arrival at the exercise location, all exercise staff, participants and observers must:

1. Check in with the Check In recorder at the main street level entrance to the facility.
2. Put on your exercise identification badge. The exercise identification badge **MUST** be worn in plain view at all times while on the premises of the exercise facility. If you cannot find a badge with your name on it, additional blank badges will be available. Please fill one out and wear it .
3. Make your luncheon choice with the Check In recorder, you will not get lunch if you don't !
4. Review the Participant Handouts provided by the Check In recorder (These will include a chronology of scenario events and a diagram of the facility layout with telephone numbers)

### Exercise Play Concludes

1100            Actions to respond to the scenario by exercise participants concludes.

Individual sections meet for a self-critique of the exercise. (Issues to be written on a flip chart or overhead transparencies. Discussion lead by Section Chiefs and Coaches or Evaluators) Each section develops five (5) Lessons Learned.

Group review of Lessons Learned.

Exercise critique ends. Closing statements.

Conclusion of day's activities

## **5. Scope of the Exercise**

Consistent with the USCG NPREP guidelines and the Oregon Department of Environmental Quality's June 1998 Guidance Document of Conducting Oil Spill Drills, this exercise will be a "focused" exercise which targets a limited portion of the response organization which could be required for the chosen scenario.

The HMS Vessel Response Plan and the PTSI Oil Spill Response Contingency Plan as well as the NIIMS-based ICS methods and procedures detailed in the Plans and in the NW Area Plan will be utilized throughout the exercise.

The Exercise is specifically focused on ICS organizational skill development, ICS process management, integration and coordination of vessel issues into a pollution response organization and resource tracking.

The Exercise will use a pre-scripted scenario. "Real time" inputs will be provided by the Exercise Controllers to exercise specific SMT skills. Any requirements from Exercise Participants to verify on scene conditions of the spill ( sometimes referred to on exercises as "Truth" ) will come from the Exercise Control group. Phone numbers, ground rules and procedures for contacting Exercise Control will be provided at the Check In recorder station on the day of the exercise. *Activities of all participants and observers will be under the control of the Exercise Staff. All participants and observers must follow instructions or directions from the Exercise Staff as a condition of participation.*

## 7. Exercise Objectives

Primary	Exercise	Focus:
⇒	Development of Incident Objectives to address both pollution response and vessel casualty response in a Unified Command Structure as envisioned in the USCG FOG;	
⇒	Resource Tracking of the resources required to respond to a major marine oil spill:	

### Primary Objectives:

1. Develop an appropriate Day 1 Incident Action Plan for ongoing operations.
2. Coordinate vessel issues (salvage, repair, voyage plan, cargo transfers) with the barge companies within the ICS/UCS organization
3. Coordinate Unified Command activities during the initial incident response.

### Sub Objectives:

1. Demonstrate resource tracking capability and process by completing the 215 process in a Tac Ops meeting, and supporting current resource summary for the ICS 201.
2. Demonstrate the ability to develop and document an Operations Section following the NIIMS ICS guidelines and associate resources with those operational units.
3. Demonstrate a full scale Situation Display Unit which is well controlled and uses appropriate visuals to show current incident status in an appropriate location in the ICP.
4. Exercise the use of the PTSI building to accommodate the ICP needs.
5. Produce timely and accurate cost accounting of resources deployed and projection of anticipated costs for incoming member.
6. Become more familiar with logistical and communications issues in the Portland area.



**3.2.2 PLANNING:** Demonstrate the ability to consolidate the various concerns of the members of the Unified Command into joint planning recommendations and specific long range strategic plans. Demonstrate the ability to develop short range tactical plans for the Operations Section.

**3.2.3 LOGISTICS:** Demonstrate the ability to provide the necessary support of both the short term and long term action plans.

**3.2.6 SAFETY AFFAIRS (SAFETY OFFICER):** Demonstrate the ability to monitor all field operations and insure compliance with safety standards.

**5. ASSESSMENT:** Demonstrate the ability of the spill response organization to provide an initial assessment of the discharge and provide continuing assessments of the effectiveness of the tactical operations.

**6. CONTAINMENT:** Demonstrate the ability of the spill response organization to contain the discharge at the source or in various locations for recovery operations.

**8. PROTECTION:** Demonstrate the ability of PTSI to develop plans to protect the environmentally and economically sensitive areas identified in the Area Contingency Plan and the PTSI Contingency Plan.

**8.1 PROTECTIVE BOOMING:** Demonstrate the ability to assemble and deploy sufficient resources to implement the protection strategies contained in the Area Contingency Plan and the Facility Response Plan.

**9. DISPOSAL:** Demonstrate the ability of the spill response organization to dispose of the recovered material and contaminated debris.

**10. COMMUNICATIONS:** Demonstrate the ability to establish an effective communications system for the spill response organization.

**10.1 INTERNAL COMMUNICATIONS:** Demonstrate the ability to establish an intra-organization communications system. This encompasses communications both within the administrative elements and the field units.

**10.2 EXTERNAL COMMUNICATIONS:** Demonstrate the ability to establish communications with external and advisory and support elements.

## **8. Actions to be taken by participants**

1. Conduct an Initial Incident Briefing
2. Establish ICP at PTSI: initiate ICS and UCS process and organizations
3. Establish a plan for time management of SMT activities
4. Schedule and conduct meetings using ICS principles and procedures
5. Effectively assign incoming personnel into the Unified SMT
6. Establish (simulate) Staging Area(s) with Staging Area Manager(s) and real time communications from ICP to Staging Areas
7. Simulate resource mobilization to Staging Area(s), capture in documentation
8. Identify and develop strategies to protect resources at risk and public health and safety
9. Simulate assignment / deployment of resources from Staging Area(s)
10. Document communication systems to be used for field operations
11. Develop written salvage / lightering / vessel management plan within the UCS SMT organizational format and process and integrate that planning into the overall incident action plan
12. Document key decisions

## 10. ICS Positions activated

Following the “focused” approach of this exercise tied to the exercise objectives, only the following ICS positions will be activated in the exercise;

- Command Section- IC, Safety Officer (SO), FOSC & SOSC
- Operations Section- OSC, Staging Area Manager(s), On Water Recovery and Beach Cleanup.
- Planning Section- PSC, Situation Unit, Resource Unit, Documentation Unit,
- Logistics- LSC, Branch Directors
- Finance Section- Section Chief, Cost Unit

## 12. Exercise Guidelines

This exercise is designed to exercise selected portions of the PTSI Spill Management Team, as set out in the Objectives listed in this document. In order for the exercise to be effective, each team member will need to contribute as though they were responding to an actual incident.

The exercise will proceed according to a real time schedule. No artificial time compression will be used.

The exercise scenario has been pre-scripted to make a plausible backdrop for the situational challenges which will come from the Exercise Controllers. However, both the exercise scenario and the exercise events are designed to maximize the use of ICS skills, and do not include or address many issues which may be encountered in an actual oil spill. Oil spill responses can raise a multitude of controversial regulatory, political, tactical, equipment, economic, business and ethical issues. This exercise is not designed to address all of those potential issues. It is focused on exercising a specific set of ICS organizational skills and processes. In the event that participants stray from the stated objectives, the Exercise Staff will ask participants to drop those discussions and move back on task.

The simulation itself will be driven by the Exercise Control which will present problem situations and/or update information about the incident, people involved, and activities taking place. The spill location and trajectories as well as vessel conditions will be simulated and updated on a regular basis by the Control Group, providing what is often referred to as "Truth" in exercise situations. Exercise Control will be located in another building from the exercise facility, so contact with Exercise Control will require either telephone contact or a physical visit to the Exercise Control facility which is located a short (walking) distance from exercise facility. Participants who want to simulate a visit to or overflight of the incident site during the exercise will have to actually go to the Exercise Control facility. Specific information on how to contact or visit Exercise Control will be provided the day of the exercise in handouts to the participants.

Exercise Control may issue written "Exercise Directives" to participants to prompt participants to take certain actions. There will be written instruction on each exercise directive as to what the participants is required to do with the directive.

Locating, securing and/or ordering equipment, manpower or supplies for the purposes of the exercise should, insofar as possible, reflect realistic delivery times. Telephone calls may be made to anyone necessary outside the ICP. The Exercise Control Room will simulate role play of some key contacts. The

telephone numbers are listed on the Telephone Directory placed at each ICP telephone.

- i. Limitations in Control Room staff prevents the physical simulation of each contact by a single individual. That is to say that one role player may play several roles, although each role under most circumstances will be played by the same controller. The role players will indicate what telephone number they may be reached at if a response is necessary.
- j. At the end of the exercise, the team will be allowed a self-evaluation. This process is often insightful and provides more valuable inter-team feedback than outside evaluations.

## Exercise Staff

Name	Agency/ Affiliation	Position on Exercise
Dennis O'Meara	FAMM	Controller
Barry Keavan	MSRC	Controller

## Exercise Participants

Name	Affiliation	Exercise Status
	OR DEQ	SOSC
	OR DEQ	Participant
Troy Goodman	PTSI	Participant
George Clark	HMS	Participant
Chris Swan	OTB	Participant
Jennifer Masar	HMS	Participant
Amber Anderson	HMS	Participant
Bob Robertson	PTSI	Participant
Alan Sullivan	FAMM	Participant
Kevin Buffum	PTSI	Participant
Dave Gore	HMS	Participant
Rick Harshfield	MSRC	Participant
Nicole Kangas	PTSI	Participant
Brent Way	CRC	Participant
Tina Garrett	PTSI	Participant
Don Meberg	HMS	Participant
Todd Prophet	HMS	Participant
Gregg Nelsen	HMS	Participant
Harley Franco	HMS	Participant
Kelly Dawson	CRC	Participant
	USCG	Participant
	USCG	Participant
	CRC	Participant
		Participant
		Participant
		Participant

**HMS/PTSI 2003 Table Top Exercise Critique Form** (use more than one if needed)

UNIT OR SECTION BEING EVALUATED: \_\_\_\_\_

NPREP OBJECTIVE EVALUATION RELATES TO (Number): \_\_\_\_\_

OBSERVATION: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

RECOMMENDATION: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

EVALUATOR'S NAME: \_\_\_\_\_ (Optional)

Please return by August 15, 2003 to: HMS, George Clark, P.O. Box 24005, Seattle, WA 98124 Fax : (206) 447-3055 e-mail : gclark@harleymarine.com
---

— Underground Pipe Lines —



### Underground Pipelines

<u>From/To</u>	<u>Length</u>	<u>Dia.</u>	<u>Location</u>	<u>Contents</u>	<u>Construction Material (1)</u>	<u>Overlying Structures</u>	<u>Years Age</u>
Collection sump by shop/NE corner of tank farm	110'	4"	Track # 3	stormwater	PVC	None	8
T-20/ main supply loop by T-19	100'	4"	Tank farm	Distillate	steel or iron	None	85
Laboratory/ maintenance shop/ tank farm	250'	4"	Central plant	water	iron	Miant. shop	41
Boiler house/ former maintenance shop	???	2,37 4"	Central plant	???	steel	None	???
Boiler house/ former maintenance shop	1500	6"	Central plant	Water/fire hyd	steel	None	85
NWN's LNG tank/NWN's Odorizer plant	100	16-20"	End to end	Natural gas	steel	Minor frn. pars	75
T-11/ T-1 and T-65	250	8"	West end of track #3	Creosote	steel	Black top walk area	75
Stormwater tanks SW-1 thru SW-6/Unknown	???	4"	West end tank farm	???	steel	Tanks, concrete fdns	???
Unknown/ T-3, T-4, T20,T-68 & T-99	500	4"	Tank farm	Fire ext foam	steel	None	???
T-53/Unknown going West	???	4"	West NWN Odzer plt	Creosote	steel	None	???

Note (1): None of the lines are double wall construction.

## Underground Lines

[illegible]

## Underground Lines

[illegible]

# UNDERGROUND PIPE LINES

Northwest Terminal, Portland, Oregon

TYPE OF SERVICE - CIRCLE ONE:

Process

or

Utility

STATUS - CIRCLE ONE:

Active

or

Abandoned

LOCATION:

From the collection sump by the shop on track #3 road  
to the NE corner of the tank farm

PRODUCT OR MATERIAL:

storm water

TYPE OF SERVICE:

storm water collection

PIPE DIAMETER:

4"

MATERIAL OF CONSTRUCTION:

PVC

APPROX. LENGTH:

110'

APPROX. AGE:

3 years

UNDERGROUND PIPE LINES

Northwest Terminal, Portland, Oregon

TYPE OF SERVICE - CIRCLE ONE:

Process

or

Utility

STATUS - CIRCLE ONE:

Active

or

Abandoned

LOCATION:

From Tank T-20 to main supply loop by tank T-19  
in the tank farm

PRODUCT OR MATERIAL:

distillate

TYPE OF SERVICE:

product supply

PIPE DIAMETER:

4"

MATERIAL OF CONSTRUCTION:

steel or iron

APPROX. LENGTH:

100'

APPROX. AGE:

80 years

## UNDERGROUND PIPE LINES

Northwest Terminal, Portland, Oregon

TYPE OF SERVICE - CIRCLE ONE:

Process

or

Utility

STATUS - CIRCLE ONE:

Active

or

Abandoned

LOCATION:

from Laboratory To Maintenance To lower Tank farm

PRODUCT OR MATERIAL:

H<sup>2</sup>O

TYPE OF SERVICE:

drain lines

PIPE DIAMETER:

4 IN

MATERIAL OF CONSTRUCTION:

IRON

APPROX. LENGTH:

250 FT

APPROX. AGE:

35 yrs

UNDERGROUND PIPE LINES

Northwest Terminal, Portland, Oregon

TYPE OF SERVICE - CIRCLE ONE:

Process

or

Utility

STATUS - CIRCLE ONE:

Active

or

Abandoned

LOCATION:

Front of Boiler house across plant road  
to former Maint area.

PRODUCT OR MATERIAL:

unknown

TYPE OF SERVICE:

unknown

PIPE DIAMETER:

2 inch 4 inch 3 inch 1 inch

MATERIAL OF CONSTRUCTION:

steel

APPROX. LENGTH:

unknown

APPROX. AGE:

unknown

Prior To Koppers initiating operations,

# UNDERGROUND PIPE LINES

Northwest Terminal, Portland, Oregon

TYPE OF SERVICE - CIRCLE ONE:

Process

or

Utility

STATUS - CIRCLE ONE:

Active

or

Abandoned

LOCATION:

Main Roadway from NW gas company Tank  
farm to Chloriser plant.

PRODUCT OR MATERIAL:

Natural Gas

TYPE OF SERVICE:

Adding odor to Nat gas

PIPE DIAMETER:

16-20 inch.

MATERIAL OF CONSTRUCTION:

Steel

APPROX. LENGTH:

1000 feet

APPROX. AGE:

70 yrs



# UNDERGROUND PIPE LINES

Northwest Terminal, Portland, Oregon

TYPE OF SERVICE - CIRCLE ONE:

Process

or

Utility

STATUS - CIRCLE ONE:

Active

or

Abandoned

LOCATION:

under main roadway from Boiler House.

PRODUCT OR MATERIAL:

water

TYPE OF SERVICE:

Fire Hydrants

PIPE DIAMETER:

6 in Trunk 4 in leads

MATERIAL OF CONSTRUCTION:

Steel

APPROX. LENGTH:

1000 FT

APPROX. AGE:

80 yrs

UNDERGROUND PIPE LINES

Northwest Terminal, Portland, Oregon

TYPE OF SERVICE – CIRCLE ONE:

Process

or

Utility

STATUS – CIRCLE ONE:

Active

or

Abandoned

LOCATION: T-11 To area between T-1 and T-65

PRODUCT OR MATERIAL: P1/P13

TYPE OF SERVICE: Product supply

PIPE DIAMETER: 8 inch

MATERIAL OF CONSTRUCTION: Steel

APPROX. LENGTH: 250 FT

APPROX. AGE: 70 yrs

## UNDERGROUND PIPE LINES

Northwest Terminal, Portland, Oregon

TYPE OF SERVICE – CIRCLE ONE:

Process

or

Utility

STATUS – CIRCLE ONE:

Active

or

Abandoned

LOCATION: Lower Tank farm SW-1/SW-2/SW-3/SW-4/SW-5/SW-6  
4 in pipe lines near Tanks

PRODUCT OR MATERIAL: unknown

TYPE OF SERVICE: process

PIPE DIAMETER: 4 in

MATERIAL OF CONSTRUCTION: steel

APPROX. LENGTH: unknown

APPROX. AGE: unknown

used Prior To Koppers initiating operations.

# UNDERGROUND PIPE LINES

Northwest Terminal, Portland, Oregon

TYPE OF SERVICE - CIRCLE ONE:

Process

or

Utility

STATUS - CIRCLE ONE:

Active

or

Abandoned

LOCATION:

Lower Tank farm T-99 T-4 T-3 T-20 T-68

PRODUCT OR MATERIAL:

Foam Fire extinguisher

TYPE OF SERVICE:

~~Q~~ Fine Retardant

PIPE DIAMETER:

4 in

MATERIAL OF CONSTRUCTION:

Steel

APPROX. LENGTH:

500 FT

APPROX. AGE:

70 yrs

Prior to Koppers initiating operations

UNDERGROUND PIPE LINES

Northwest Terminal, Portland, Oregon

TYPE OF SERVICE – CIRCLE ONE:

Process

or

Utility

STATUS – CIRCLE ONE:

Active

or

Abandoned

LOCATION:

T-53, WEST OF NWN'S OILCREEK PLANT

PRODUCT OR MATERIAL:

CRUDE

TYPE OF SERVICE:

Product Supply

PIPE DIAMETER:

4 in

MATERIAL OF CONSTRUCTION:

Steel

APPROX. LENGTH:

unknown

APPROX. AGE:

unknown

**Date:** 7/17/00 12:53 PM

**Sender:** april titus

**To:** Jim Dietz; Amos Kamerer

**Priority:** Normal

**Subject:** The spreadsheet #2

---

please disregard the first e-mail there was an error in the spreadsheet



Underground  
Pipelines.xls

My apologies  
April

**Date:** 6/14/00 10:37 AM  
**Sender:** Patti Mittereder  
**To:** Steven Lish; Tom Golubic; Amos Kamerer; Jim Burkhart; Nate  
Weinstein; Mike Mancione  
**cc:** Kevin Fitzgerald; Jim Dietz  
**Priority:** Normal  
**Subject:** Fwd: Underground Lines

Per Jim's request, please scroll down and read the following information.

Thank you.

Patti

Forward

Header

Subject: Underground Lines  
Author: Jim Dietz  
Date: 6/14/00 10:17 AM

Patti,

Please forward this message to the CM&C Plant Managers and cc: KJF

Guys,

We need to prepare a list of the underground piping in our plants based on our understanding and history. This list should be broken down into the following information:

I. Process Piping

- A. Active
- B. Abandoned

II. Utility Piping

- A. Active
- B. Abandoned

For each category please list the material service (e.g., city water), description of service (e.g., water to boilers), size (diameter), material of construction, est. length, approximate age.

Let me know when this can be completed.

Thanks,

Jim.

**SPEED LETTER®**

TO

*Jim Dietz*

FROM

*Amos*

*K-1650*

*Portland*

SUBJECT

*Underground Pipe Lines*

FOLD NO. 9 or 10

MESSAGE

*Attached is the info you requested —*

DATE

*6/21/00*

SIGNED

*Amos*

REPLY

Carbonless Snap-A-Way® Forms ©1993 ACCO USA, Inc. Made in U.S.A.

FOLD FOR NO. 9

FOLD FOR NO. 10

DATE

SIGNED



**Wilson Jones®**

SENDER: DETACH AND RETAIN YELLOW COPY, SEND WHITE AND PINK COPIES. RECIPIENT: RETAIN WHITE COPY, RETURN PINK COPY.

44-902 • Triplicate

44-904 • Quadruplicate



**Underground Pipelines  
Northwest Terminal, Portland, Oregon**

Location	T-57, west of N.W. Natural's Oderizer Plant	Lower Tank Farm Tanks T-3, T-4, T-20, T-68 & T-99	Lower Tank Farm SW-1, SW-2, SW-3, SW-4, SW-5, SW-6	From the Collection Sump by the Shop on Track #3 Road to the NE corner of the Tank Farm	T-11 to area between T-1 & T-65
Type of service Process or Utility	Process	Process	Process	Process	Process
Current Status Active or Abandoned	Abandoned	Abandoned	Abandoned	Active	Abandoned
Product or Material	Creosote	Foam	Unknown	Stormwater	P1/P13
Type of service	Product Supply	Fire Retardant	Process	Stormwater Colletion	Product Supply
Pipe Diameter	4"	4"	4"	4"	8"
Pipe Material	Steel	Steel	Steel	PVC	Steel
Approx. Length	Unknown	500 feet	Unknown	110 feet	250 feet
Approx. Age	Unknown	70 Years	Unknown	3 Years	70 Years

Location	Under Main Roadway from Boiler House	From Laboratory To Maintenance To Lower Tank Farm	Front of Boiler House Across Plant Road to Former Maintenance Area	Main Roadway from NW Natural's Tank Farm to Oderizer Plant	From Tank T-20 to Main Supply Loop by Tank T-19 in Tank Farm
Type of service Process or Utility	Utility	Process	Process	Utility	Process
Current Status Active or Abandoned	Active	Active	Abandoned	Active	Abandoned
Product or Material	Water	Water	Unknown	Natural Gas	Distillate
Type of service	Fire Hyderants	Drain Lines	Unknown	Adding odor to Natural Gas	Product Supply
Pipe Diameter	6" Trunk, 4" Leads	4"	1", 2", 3", & 4"	16" to 20"	4"
Pipe Material	Steel	Iron	Steel	Steel	Steel or Iron
Approx. Length	1,000 feet	250 feet	Unknown	1,000 feet	100 feet
Approx. Age	80 Years	35 Years	Unknown	70 Years	80 Years



## PACIFIC TERMINAL SERVICES, INC.

910 SW Spokane Street, Seattle, Washington 98134  
 P.O. Box 24005, Seattle, Washington 98124-0005  
 Tele. (206) 628-0051 Fax (206) 628-0293

*File 13: PORTLAND  
 PTST*

September 3, 2002

Amos Kamerer  
 Koppers Industries, Inc.  
 7540 NW St. Helens Road  
 Portland, OR 97210-3663

Dear Amos:

Enclosed please find an executed copy of the escalation letter for the Dock Services Agreement, an executed copy of the Oil Spill Contingency Agreement, and a copy of the modifications to PTST's Oil Spill Contingency Plan.

The modifications to the Oil Spill Contingency Plan were completed and mailed to the Oregon Department of Environmental Quality, United States Environmental Protection Agency-Region 10, and the United States Coast Guard-Portland Marine Safety Office.

I will let you know if I receive any comments on the modifications submitted. Please call if you have any questions.

Sincerely,

*Troy M. Goodman*  
 Troy M. Goodman, PE  
 President

Post-It® Fax Note 7671		Date 9/5/02	# of pages 32
To J. Diete	From Amos		
Co./Dept. T. Self	Co.		
Phone #	The Attached		
Fax #	Review of Comment		



710 SW Spokane Street, Seattle, Washington 98134  
P.O. Box 24005, Seattle, Washington 98124-0005  
Tele. (206) 628-0051 Fax (206) 628-0293

August 8, 2002

Amos Kameron  
Koppers Industries, Inc.  
7540 NW St. Helens Road  
Portland, OR 97210-3663

Dear Amos:

This is with reference to your request to have Pacific Terminal Services (PTSI) include Koppers' pitch unloading facility in the PTSI Oil Spill Contingency Plan.

PTSI will submit a minor modification to our Oil Spill Contingency Plan incorporating the Koppers dock receipt line to the first shore valve. These modifications (includes update copies sent to all plan holders) will be provided for a lump sum of Twelve Hundred Dollars (\$1200.00). Any additional modifications, meetings with Oregon DEQ, or other work necessary to complete the modification will be done on a time and materials basis.

In addition, Koppers will pay a response contractor fee of \$0.0533 per barrel of pitch received through the dockline. This fee will be subject to annual review and escalation. This fee does not remove Koppers from any liability for spill clean up costs.

Let me know if this meets with your approval. If so, I will submit the plan changes to DEQ next week.

Sincerely,

Troy M. Goodman, PE  
President

Accepted and agreed to this 20 day of  
August 2002.

Koppers Industries, Inc.

By:

Title: Plant Manager

A. S. Kameron

Accepted and agreed to this 27 day of  
August 2002.

Pacific Terminal Services, Inc.

By:

Title: President

# PACIFIC TERMINAL SERVICES, INC. OIL SPILL RESPONSE PLAN

## LOG OF AMENDMENTS TO THE PLAN

Amendment Number	Date	Page No.	Description of Amendment	ODEQ Notified? (see Note below)	Approval Initials
1	2-18-93	ALL	General Revision per NVIC 7-92	Yes	
2	7-1-94	ALL	Revised to address USCG and EPA deficiencies	Yes	
3	10-99	ALL	Revised for transfer from PNO to PTSI	Yes	
4	11-00	ALL	Revisions per DEQ	Yes	
5	01-01	ALL	Revisions per DEQ	Yes	
6	03-01	ALL	Revisions per EPA	Yes	
7	05-01	3-12 to 3-14	Revised per DEQ	Yes	
8	05-01	Tab. 8	Added per DEQ	Yes	
9	07-05-01	ii	Table of Contents	Yes	
		1-20	Section 1.5.1	Yes	
		2-8	Section 2.4	Yes	
		2-16 to 2-21	Section 2.5.2 to 2.6.4	Yes	
		3-11 to 3-21	Section 3.2.3 to 3.5	Yes	
		Fig 2-4	Oil Spill Report Form	Yes	
		Fig 2-5	Oil Spill Equipment Response	Yes	
		App A	Time	Yes	
		App B	Cooperative Information	Yes	
		App H	Cooperative Equipment	Yes	
		App L	Field Manual	Yes	
			Wildlife Search, Rescue, and Rehabilitation Guideline		
10	05-02	2-8 to 2-10	Call-out checklist and Facility Response Personnel	Yes	
11	08-02	1-5 to 1-7 and 2-8 to 2-9	Call-out checklist and inclusion of Koppers operations		

Revision 7

05-01

**PACIFIC TERMINAL SERVICES, INC.  
OIL SPILL RESPONSE PLAN**

This plan addresses only the operations of PTSI and those oil storage tanks at the facility leased by PTSI from Northwest Natural Gas Company (NNG). PTSI began operations at this facility in November 1999. Pacific Northern Oil (PNO) operated the facility from August 1978 until PTSI took over operations. Prior to that time, others operated the fuel oil terminal. The facility has been in industrial service since the early 1900's. All tanks passed API 653 inspection in 1999.

Facility Owner: Northwest Natural Gas Company  
Address: 220 NW Second, Portland, OR 97209  
Telephone: (503) 226-4211

In addition, PTSI operates the pier and pipeline for receipt of liquid coal tar pitch (molten) for Koppers Industries. Liquid coal tar pitch is pumped from ships through a pipeline from the pier to storage tanks located upland new to NW St. Helens Road. Koppers Industries owns the pipeline, storage tanks, and associated process and distribution facilities. Koppers Industries leases the property from NNG.

Corporate:	Koppers Industries, Inc.	Local: Koppers Industries, Inc.
	436 Seventh Avenue	7540 NW St. Helens Road
	Pittsburgh, PA 15219	Portland, OR 97210
	(412) 227-2001	(503) 286-3681

**Regulatory Jurisdiction**

For the purpose of dividing the federal regulatory jurisdiction between the EPA and the USCG, the oil facility at PTSI is defined as a "complex" consisting of a non-transportation related facility and a marine transportation related facility. The non-transportation related facility includes seven aboveground storage tanks (with capacities shown in Table 1 of the Tables section, located in secondary containment areas (surrounded by concrete or dirt retaining walls at least 12 feet high), each with a capacity large enough to contain the volume of the largest storage tank. Refer to Figure 1-3 (in Figures section), Facility Layout. The non-transportation related part of the facility complex is regulated by the EPA.

The marine transportation related facility portion of the complex includes three steel aboveground oil transfer pipelines running between the aboveground storage tanks and the fuel oil dock. The No 6 fuel oil pipelines are insulated and steam heat traced

## PACIFIC TERMINAL SERVICES, INC. OIL SPILL RESPONSE PLAN

to heat the fuel oil in the pipeline before transfers begin. The marine transportation related part of the facility complex is regulated by the USCG.

The boundaries between the non-transportation related part of the complex and the marine transportation related portion are the valves in the transfer pipelines at the shore end of the dock walkway. PTSI operates the marine transportation related portion of the Koppers liquid coal tar pitch pipeline.

For state regulations, the jurisdiction of the ODEQ covers the entire facility.

### **1.1.4 Tanks and Facility Operations**

The facility is designed to receive and store various grades of fuel oils by truck, rail car, barge, or tanker and to mix these various grades of oil together to make marine and industrial fuel oils. These products are then delivered by truck or barge. The SIC Code for PTSI is 5171. The aboveground storage tanks operated by Pacific Terminal Services Inc. (PTSI) are shown in the Facility Layout, Figure 1-3 and are listed in Table 1 (shown in Figure and Table sections respectively).

In addition, liquid coal tar pitch (molten) is received from ships at the pier and pumped to the Koppers upland storage tanks. At the Koppers Facility, various coal tar pitch products are processed, stored, and distributed by truck and by rail car. The SIC for Koppers Industries is 2865.

### **1.1.5 Dock Pipelines**

Fuel oil transfers to and from the dock are made in the following three parallel, aboveground pipelines:

- |   |                                 |
|---|---------------------------------|
| a) one 12"-diameter for heavy fuel oil: | Line fill capacity: 63 barrels. |
| b) one 10"-diameter for diesel oil:     | Line fill capacity: 44 barrels. |
| c) one 8"-diameter for cutter oil:      | Line fill capacity: 28 barrels. |

These pipelines run aboveground directly from the tank yard areas to the dock "risers" at the dock service platform. All lines may be isolated with the gate valves located at the shore end of the dock walkway and at the dock service platform.

## PACIFIC TERMINAL SERVICES, INC. OIL SPILL RESPONSE PLAN

Liquid coal tar pitch transfers from the pier to the upland storage tanks are made through a single 8" product transfer pipe. This pipe increases in size to 10" just after crossing the top of the riverbank. The pipe is heat "traced" with 1" and 2" hot oil pipes attached to the product pipe. The product and heat trace pipes are completely encased with 6" thick insulation. The heat trace fluid is a petroleum based oil similar to diesel fuel oil with a higher flash point.

The liquid coal tar pitch transfer pipe has shut off valves at the ship connection on the pier (two valves – one manual and one remotely motor operated), a valve at the top of the river bank (manually operated), and manually operated valves near the storage tanks to direct the product to the proper tank.

The transfer pipe runs above ground from the pier connection to the storage tank area. The total length of the pipeline is approximately 2000'. The product line-fill capacity is approximately 200 barrels from the ship connection on the pier to the shut off valve near the tank. The heat trace line-fill capacity is approximately 5 barrels from the end of the pier to the shut off valves at the meter shed about 150' inshore of the top of the bank.

### **1.1.6 Volume of Oil Transfers**

Oil tankers delivering oil products into the facility have been as large as 50,000 DWT while the largest barges have had capacities of up to 100,000 barrels. Actual oil volumes transferred are typically much smaller than could be delivered by these large vessels. For example, the average transfer in 2000 was 156,000 barrels per month.

Ships bringing coal tar pitch will discharge about 8,400 metric tons (50,000 barrels) of product. Six to twelve ships a year will discharge at the facility. Each discharge will take 36 to 48 hours. The facility will only "receive" coal tar pitch.

### **1.1.7 Vessel Information**

Fuel oil is shipped and received in bulk in oil tank vessels or barges brought to the facility by tug boats. Oil barges vary in length from 120' to 350' and have oil storage capacities that range between 5000 barrels and 75,000 barrels. Some typical barge sizes are listed in Table 2, in Figures section.

**OIL SPILL RESPONSE PLAN**

Liquid coal tar pitch (molten) is transferred from ships to upland storage tanks. A steel transfer hose will be directly connected between the ship and the pier transfer pipe connection. The ships are conventional dry bulk/container carriers fitted with special deep tanks for carriage and transfer of liquid coal tar pitch. The deep tanks are approximately 8,900 metric ton capacity (approximately 60,000 barrels.) The vessels are about 40,000 DWT capacity and approximately 650' long and 95' wide.

**1.1.8 Simultaneous Operations**

There is only one loading berth at the facility dock. In general, there is only one transfer to a vessel at a time. However, from time to time, a tug boat, which may be tending a tank barge moored at the dock, may receive diesel oil simultaneously with the transfer to or from the barge. In this case, two facility dock operators are assigned, one to act as the Person-In-Charge of each of the two transfer operations. The oil transfer hose is laid across the barge to the tug boat. The lengths of the tug boats fueled may be as much as 150 feet.

Other operations which may occur simultaneously with barge or ship loading or unloading include:

- a) Inter-tank transfers,
- b) Truck loading or unloading, or
- c) Rail car unloading.

These operations are described in Section 6.0, Spill Risk Variables.

**1.1.9 Calculation of Oil Spill Planning Volumes**

Worst case planning volumes are calculated to determine the amount of oil spill response resources that are necessary to have available. The ODEQ, the EPA, and the USCG each have different requirements and definitions of worst case planning volumes.

**ODEQ Worst Case Spill**

The ODEQ defines the Worst Case Spill planning volume as the entire volume of product from the largest aboveground storage tank on the facility site complicated by adverse weather conditions (during which wind, reduced visibility, and sea state hinder but do not preclude normal response operations). The ODEQ Worst Case



# PACIFIC TERMINAL SERVICES, INC.

## OIL SPILL RESPONSE PLAN

<b>Piping/Manifold Rupture or Leak</b>	Shut off transfer pumps. Initiate evacuation of affected pipeline. Call 911, in case of injuries or fire. Evacuate in case of emergency. Complete Oil Spill Report Form. Make Calls on Call-Out Checklist. Monitor air for H2S. Launch/ operate boat to deploy oil boom. Follow directions of Qualified Individual.	Close all valves to isolate pipeline/manifold. Open oil boom storage. Feed boom into water. Assist supervisor in boat to deploy boom. Follow directions of shift supervisor.
<b>Fire or Explosion</b>	Shut off transfer pumps. Close all pipeline valves, if possible. Call 911, in case of injuries or fire. Evacuate, if necessary Use fire extinguisher, if safe to do so. Complete Oil Spill Report Form. Make Calls on Call-Out Checklist. Monitor air for H2S. Launch/ operate boat to deploy oil boom. Follow directions of Qualified Individual.	Close riser valve at dock, if possible. Evacuate, if necessary Use fire extinguisher, if safe to do so. Open oil boom storage. Feed boom into water. Assist supervisor in boat to deploy boom. Follow directions of shift supervisor.
<b>Pump Failure</b>	Shut off transfer pumps. Call 911, in case of injuries or fire. Evacuate in case of emergency. Complete Oil Spill Report Form. Make Calls on Call-Out Checklist. Monitor air for H2S. Launch/ operate boat to deploy oil boom. Follow directions of Qualified Individual.	Close all pipeline valves. Open oil boom storage. Feed boom into water. Assist supervisor in boat to deploy boom. Follow directions of shift supervisor.

In addition to the equipment shutdown and the mitigation steps outlined above, the on-duty personnel will also make efforts for containment on land including digging trenches to divert or channel spilled oil and building berms and/or plugging storm drains to contain a spill and to mitigate spill damages. Storm drains may be quickly plugged by placing plastic sheeting over the grated opening and shoveling dirt or sand on top of the plastic to hold it down.

## PACIFIC TERMINAL SERVICES, INC. OIL SPILL RESPONSE PLAN

### 2.4 NOTIFICATION

#### ALL SPILLS REQUIRE REPORTING

##### 2.4.1 Call-Out Checklist

After a spill, the on-duty shift supervisor will immediately call:

### 911 IN CASE OF INJURY, FIRE OR EXPLOSION.

After shutting off all pumps, closing all valves, and assessing details of the spill listed on the Oil Spill Report Form, the on-duty shift supervisor will call the following people:

#### 1. Facility Manager:

Title	Name	Office	Pager	Mobile	Home
Terminal Manager/QI	Troy Goodman	206-938-6500	206-810-8592	206-571-5483	425-427-5660
Alt QI	George Clark	206-628-0051	888-983-9087	206-793-4358	425-672-9080
Alt QI	Bob Robertson	206-938-6506	206-977-4528	206-255-5010	360-923-0203
Alt QI	Tina Garrett	503-240-3452	503-920-8639	503-572-9355	503-283-6841
Alt QI	Nicole Waldo	206-938-6533	206-871-9476	206-730-8053	425-828-4206

If spill involves Koppers Industries Portland Coal Tar Pitch Pipeline then notify:

Title	Name	Office	Pager	Mobile	Home
Manager	Amos Kammerer	503-286-3681		503-705-8748	503-246-8045
Alternate	T.J. Turner	503-286-3681			360-896-5139

#### 2. Primary Response Contractor(s):

**Clean Rivers Cooperative:**

(503) 220-2040

#### 3. NWNG, Security (at facility gate):

(503) 286-5250

Immediately, upon receiving the call and details about the spill, the QI, or the designated alternate QI, will call the following:

**PACIFIC TERMINAL SERVICES, INC.  
OIL SPILL RESPONSE PLAN**

1. USCG National Response Center (NRC) at: 1-800-424-8802 or (202)-267-2675.
2. Oregon Emergency Response System (OERS) at: 1-800-452-0311 or (503)-378-6377.
3. Local USCG Marine Safety Office at: (503) 240-9301.
4. Northwest Natural Gas Company:  
Sandi Hart at Office: ext. 4322 (503) 226-4211  
or distribution dispatch night supervisor: (503) 226-4211
5. Corp. of Engineers: Corp. of Engineers Office: (503) 221-4188  
Bill Switzenberg, Shipyard Chief Office: (503) 326-5636  
Brandon Smith, Envir. Coord Office: (503) 326-2477
6. Portland Fire Department: 911
7. Police and State Patrol 911
8. Hospital and Evacuation Notice 911
9. EPA Region X (206) 553-1263

**If there is no answer at any of these numbers, call the next number, and after 5 minutes, try calling the unanswered number again.**

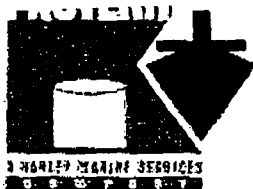
**OIL SPILL RESPONSE PLAN**Facility Response Personnel

NAME	JOB DESCRIPTION	RESPONSE ROLE	RESPONSE TIME	WORK TELEPHONE	HOME TELEPHONE
Bill Schaeffner	Dockman/PT Spvsr	1st Hr-Phase I	On-duty	(503) 286-5321	(503) 634-7873
Burt Nye	Dockman/PT Spvsr	1st Hr-Phase I	On-duty	(503) 286-5321	(360) 573-4122
Gary Bucknum	Dockman/PT Spvsr	1st Hr-Phase I	On-duty	(503) 286-5321	(503) 283-2287
Bud Dahlen	Dockman	1st Hr-Phase I	On-duty	(503) 286-5321	(503) 286-3873
Mark Flower	Dockman/PT Spvsr	1st Hr-Phase I	On-duty	(503) 286-5321	(503) 777-4124
Trent Hamilton	Dockman	1st Hr-Phase I	On-Duty	(503) 286-5321	(503) 521-9905
Larry Lamb	Dockman	1st Hr-Phase I	On-Duty	(503) 286-5321	(503) 492-5100
Tracy Wild	Dockman/PT Supvsr	1st Hr-Phase I	On-Duty	(503) 286-5321	(360) 993-4156

Spill Management Team

Once notified, depending in the severity of the spill and the extent of the spill response required, the Spill Response Manager (QI or alternate) will call in the following Spill Management Team, as required:

NAME	JOB DESCRIPTION	RESPONSE ROLE	RESPONSE TIME	WORK TELEPHONE	HOME TELEPHONE
Troy Goodman	Manager	UC	3 hours	(206) 938-6500	(425) 427-5660
George Clark	Safety	Safety Officer	4 hours	(206) 447-3055	(206) 672-9080
Rod Gullickson	Marine Operations	Operations	3 hours	(206) 447-3052	(206) 565-4018
Tina Garrett	Operations	Operations	1 hour	(503) 240-3452	(503) 283-6841
Don Meberg	Harbor Services	Logistics	3 hours	(206) 447-3063	(206) 588-7110
Todd Prophet	CFO	Finance	3 hours	(206) 477-3052	(206) 874-4728
Alan Sullivan	Planning	Planning	3 hours	(206) 938-6500	(253) 891-8793
Pat Lamb	Legal Affairs	Legal Affairs	3 hours	(206) 622-8020	(206) 525-7269



## PACIFIC TERMINAL SERVICES, INC. OIL SPILL RESPONSE PLAN

### APPENDIX C

#### MATERIAL SAFETY DATA SHEETS

For:

1. Bunker Fuel oil
2. Shell Industrial Fuel Oil
3. Shell Marine Fuel Oil
4. IF380
5. IF180
6. PS300
7. Marine Cutter Oil
8. Marine Diesel Oil
9. Marine Gas Oil
10. Diesel No. 2. Oil
11. Exxon Caloria Ht 43
12. Carbon Pitch Liquid

Copies of MSDS are found in Boiler Room and Portland Facility.

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Revision 11  
8/02

Koppers001328

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Department of Environmental Quality  
Northwest Region  
Air Quality Program

**Simple**  
**AIR CONTAMINANT DISCHARGE PERMIT**  
**REVIEW REPORT**

Koppers Industries, Inc.  
7540 N.W. St. Helens Road  
Portland, OR 97210-3663  
(503) 286-368`

Source Test	Compl Sched	Report				Excess		NSR	PSD	RACT	NSPS	NESHAP	Size	Public Notice
		A	S	Q	M	R	N							
		X					X						SI	II

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Application No.: 020276  
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## PERMITTING

### PERMITTING ACTION

1. The permit is a renewal for an existing Air Contaminant Discharge Permit (ACDP) which was issued on June 1, 1999 and was originally scheduled to expire on September 1, 2002. The old ACDP is being converted to a Simple ACDP in accordance with the rules adopted in May 2001.

### OTHER PERMITS

2. The Department has issued a water quality permit to this facility, NPDES 100419. The plant site includes 25 tanks for the collection and storage of storm water.
3. A Land Use Compatibility Statement signed by the City of Portland on September 15, 1997 granted unconditional approval.

### ATTAINMENT STATUS

4. The facility is located in a maintenance area for carbon monoxide and ozone. Two contributors to ozone, nitrogen oxides (NO<sub>x</sub>) and volatile organic compounds (VOC), are regulated pollutants.
5. The facility is an insignificant source of CO, NO<sub>x</sub>, and VOC. The area is an attainment for all other pollutants.

## SOURCE DESCRIPTION

### OVERVIEW

6. Koppers Industries, Inc., operates a coal tar pitch processing facility at 7540 NW ST. Helens Road, Portland. The facility receives, stores, and transfers coal tar pitch primarily used in the primary aluminum production industry. The major emissions sources at this facility consist of combustion sources used to heat the coal tar pitch, and fumes from the storage transfer and processing of the pitch. The fumes are collected and routed to a fume control system.
7. Notice of Construction (NC. No. 018175) approved the permittee's request to upgrade the fume control system that includes the replacement of the existing fume control system with a new thermal oxidizer. The Department also approved the facility's request to delay installation of the thermal oxidizer because of the following reasons:
  - a. The current and foreseeable drastic decline in Koppers' business due to shut down of the aluminum customers operations.

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- b. The reduction in emissions from permitted quantities from the operating schedule changes, as a result of the reduction in throughput.
  - c. Recent modification to the operation of the fume recovery system reduces emission further.
8. No changes have been made to the facility since the last permit renewal.

### PROCESS AND CONTROL DEVICES

9. Existing air contaminant sources at the facility consist of the following:

Equipment	Manufacturer	Capacity/Rate	Installed/Modified
Boiler, fired on natural gas or distillate oil	N. American	21 MM BTU/hr input	1965
Hot oil heater, fired on natural gas or oil	N. American	8 MM BTU/hr input	1990
Hotoil heater, fired on natural gas or oil	N. American	10 MM BTU/hr input	1999
Pitch /oil transfer system	N/A	150,000 ton/year	1965 1999 (mod.)
Fumer recovery system with scrubber	N/A	150,000 ton/year	1987
Storage tank (T-210) and a fume combustion system (ref. NC #018175)	N/A	???	???
Storage Tank 33 and 67	????	????	????

### **COMPLIANCE**

10. The facility was inspected on 08/05/2002 and found to be in compliance with permit conditions.
11. During the prior permit period there were no complaints recorded for this facility.
12. No enforcement actions have been taken against this source since the last permit renewal.



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## EMISSIONS

### 13. Proposed PSEL information:

Pollutant	*Baseline Emission Rate (tons/yr)	Plant Site Emission Limit (tons/yr)			Increase Over Baseline (tons/yr)	SER
		Previous PSEL (tons/yr)	Proposed PSEL (tons/yr)	Increase Over Existing Permit (tons/yr)		
SO <sub>2</sub>	0	22	39	17	39	40
NO <sub>x</sub>	0	28	39	11	39	40
CO	0	7	99	92	99	100
VOC	0	20	39	19	39	40

\*Netting basis is the same as baseline for this source.

- a. The proposed PSELs for all pollutants are equal to the Generic PSEL in accordance with OAR 340-216-0064(4)(b) and the netting basis is zero in accordance with OAR 340-222-0040(2).
  - b. Emissions of PM and PM<sub>10</sub> are less than one ton per year. For the original permit, PM and PM<sub>10</sub> are considered negligible. PM and PM<sub>10</sub> are not included in the Plant Site Emission Limit as shown above.
  - c. The facility was in operation during the baseline years. Baseline year information has not been provided, however, so baseline emission rates have not been established.
  - d. Baseline emissions rate for this facility is zero and are now frozen per OAR 340-200-0020(71)(a).
  - e. The PSEL is a federally enforceable limit on the potential to emit.
14. The normal operating schedule for the equipment is 24 hrs/day x 4 days/wk x 52 wks/yr = 4992 hrs/yr. ??????
  15. Normal annual fuel usage is 100,000 gallons of diesel oil and 184 million cubic feet of natural gas. Maximum hourly fuel burned is 150 gallons of diesel oil and/or 30,000 cubic feet of natural gas. ??????
  16. Throughput of pitch pencil is expected to be 100,000 tons per year and a maximum of 562 tons per hour. ??????

### SIGNIFICANT EMISSION RATE ANALYSIS

17. The proposed Plant Site Emissions Limit is less than the Netting Basis plus the significant emission rate, thus no further air quality analysis is required.

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## MAJOR SOURCE APPLICABILITY

### CRITERIA POLLUTANTS

18. A major source is a facility that has the potential to emit more than 100 tons per year of any criteria pollutant. This facility is not a major source of criteria pollutant emissions.

Plant Wide Capacity to Emit:

POLLUTANT	SO <sub>2</sub>	NO <sub>x</sub>	CO	VOC
Boiler	11.31	12.52	3.13	0.25
Hot Oil Heater (back up unit)	4.60	3.97	.88	0.19
Fume Recovery System				18.11
Tank 33				0.016
Tank 67				0.006
Fugitives				0.568
New Hot Oil Heater	5.34	5.96	1.49	0.12
T-200*				*See Note
TOTAL	21.25	22.45	5.50	19.26

\* Note: VOC Emissions from T-200 are included in the fume recovery system emissions.

### HAZARDOUS AIR POLLUTANTS

19. A major source is a facility that has the potential to emit more than 10 tons/year of any single HAP or 25 tons/year of combined HAPs. This source is not a major source of hazardous air pollutants.

Hazardous Air Pollutant	Potential to Emit (tons/year)
Naphthalene	1.76
Quinoline	0.13
Biphenyl	0.16
Dibenzofuran	1.07
Total	3.12

20. The source PTE has less than 80% of the threshold values for Title V for criteria pollutant, and less than 80% of the threshold values for Title III for single HAPs and combined HAPs, therefore, full compliance evaluation (FCE) is not required.

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Application No.: 020276  
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## **ADDITIONAL REQUIREMENTS**

### **NSPS APPLICABILITY**

21. There are no sources at this facility for which NSPS standards have been promulgated.

### **NSR/PSD APPLICABILITY**

22. This source is not subject to federal regulations for New Source Review (NSR) or further air quality analysis.
23. This source is not subject to federal regulations for New Source Performance Standards (NSPS).

### **NESHAPS/MACT APPLICABILITY**

24. There are no sources at this facility for which NESHAPS/MACT standards have been promulgated.

### **RACT APPLICABILITY**

25. The facility is located in the Portland AQMA, but it is not one of the listed source categories in OAR 340-232-0010, thus the RACT rules do not apply.

### **TACT APPLICABILITY**

26. The source is meeting the states TACT/Highest and Best Rules by conducting the following activities:
- A change in the wash fluid used in the fume recovery unit from heavy oil to water.
  - Reducing the days of operation from 5 to 4 days per week.
  - The fume recovery unit only operates during hours needed thus reduces emission further.
  - The installation of the thermal oxidizer once the business level reaches 75% of the original projected level based on the through put or until monthly through put reaches 5000 tons per month for three consecutive months.

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Application No.: 020276  
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## PUBLIC NOTICE

27. Pursuant to OAR 340-216-0064(5)(a), renewals of Simple Air Contaminant Discharge Permits require public notice in accordance with OAR 340-209-0030(3)(b). Therefore, the proposed permit will be placed on public notice from \_\_\_\_\_ to \_\_\_\_\_.

POLLUTANT	PREVIOUS PSEL (tons/yr)	PROPOSED PSEL (tons/yr)	ESTIMATED ACTUAL EMISSIONS (tons/yr)
SO <sub>2</sub>	22	39	21
NO <sub>x</sub>	28	39	22
CO	7	99	6
VOC	20	39	19

## SIMPLE AIR CONTAMINANT DISCHARGE PERMIT

Department of Environmental Quality  
Northwest Region  
2020 SW 4th Avenue, #400  
Portland, Oregon 97201  
(503) 229-5554

This permit is being issued in accordance with the provisions of ORS 468A.040 and  
based on the land use compatibility findings included in the permit record.

**ISSUED TO:**

Koppers Industries, Inc.  
7540 NW St. Helens Road  
Portland, OR 97210-3663

**INFORMATION RELIED UPON:**

Application No.: 0020276  
Date Received: 06/27/2002

**PLANT SITE LOCATION:**

7540 NW St. Helens Road  
Portland, OR 97210-3663

**LAND USE COMPATIBILITY FINDING:**

Approving Authority: City of Portland  
Approval Date: 09/15/1997

**ISSUED BY THE DEPARTMENT OF ENVIRONMENTAL QUALITY**

Audrey O'Brien, Northwest Region Air Quality Manager

Dated

Source(s) Permitted to Discharge Air Contaminants (OAR 340-216-0020):

Table 1 Code	Source Description	SIC
Part B, #75	All Other Sources not listed in Part B (Coal tar pitch processing facility)	2865

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## 1.0 GENERAL EMISSION STANDARDS AND LIMITS

### 1.1 Visible Emissions

The permittee must comply with the following visible emission limits, as applicable:

- a. Emissions from any air contaminant source installed on or before June 1, 1970 must not exceed an opacity equal to or greater than 40% for a period aggregating more than 3 minutes in any one hour.
- b. Emissions from any air contaminant source installed, constructed, or modified after June 1, 1970 must not exceed an opacity equal to or greater than 20% for a period aggregating more than 3 minutes in any one hour.
- c. Emissions from any air contaminant source other than fuel burning equipment must not exceed an opacity equal to or greater than 20% for a period aggregating more than 30 seconds in any one hour.

### 1.2. Particulate Matter Emissions

The permittee must comply with the following particulate matter emission limits, as applicable:

- a. Particulate matter emissions from any fuel burning equipment installed on or before June 1, 1970 must not exceed 0.2 grains per standard cubic foot, corrected to 12% CO<sub>2</sub> or 50% excess air.
- b. Particulate matter emissions from any burning equipment installed, constructed, or modified after June 1, 1970 must not exceed 0.1 grains per standard cubic foot, corrected to 12% CO<sub>2</sub> or 50% excess air.
- c. Particulate matter emissions from fuel burning equipment must not exceed:
  - i. 0.2 grains per dry standard cubic foot corrected to 12% CO<sub>2</sub> when using wood residue in equipment that existed before April 7, 1978;
  - ii. 0.1 grains per dry standard cubic foot corrected to 12% CO<sub>2</sub> when using wood residue in equipment that did not exist before April 7, 1978; or
  - iii. The emission rate shown in Figure 1 of OAR 340-208-0610 as a function of the maximum heat input when using all other fuels, except natural gas and LPG.
- d. Particulate matter emissions from any air contaminant source installed on or before June 1, 1970 other than fuel

burning equipment and fugitive emission sources must not exceed 0.2 grains per standard cubic foot.

- e. Particulate matter emissions from any air contaminant source installed, constructed, or modified after June 1, 1970 other than fuel burning equipment and fugitive emission sources must not exceed 0.1 grains per standard cubic foot.
- f. Non-fugitive particulate matter emissions from any process must not exceed the amount shown in Table 1 of OAR 340-226-0310 for the process weight allocated to such a process.

**1.3. Fugitive Emissions**

The permittee must take reasonable precautions to prevent fugitive dust emissions by:

- a. Treating vehicular traffic areas of the plant site under the control of the permittee.
- b. Operating all air contaminant-generating processes so that fugitive type dust associated with the operation will be adequately controlled at all times.
- c. Storing collected materials from air pollution control equipment in a covered container or other method equally effective in preventing the material from becoming airborne during storage and transfer.

**1.4. Particulate Matter Fallout**

The permittee must not cause or permit the emission of any particulate matter larger than 250 microns in size at sufficient duration or quantity, as to create an observable deposition upon the real property of another person. The Department will verify that the deposition exists and will notify the permittee that the deposition must be controlled.

**1.5. Nuisance and Odors**

The permittee must not cause or allow air contaminants from any source to cause a nuisance. Nuisance conditions will be verified by Department personnel.

**1.6. Fuels and Fuel Sulfur Content**

The permittee must not use any fuel other than natural gas, propane, butane, ASTM grade fuel oils, or on-specification used oil.

- a. Fuel oils must not contain more than:
  - i. 0.3% sulfur by weight for ASTM Grade 1 distillate oil;
  - ii. 0.5% sulfur by weight for ASTM Grade 2 distillate oil;



- iii. 1.75% sulfur by weight for residual oil;
- b. The permittee is allowed to use on-specification used oil as fuel which contains no more than 0.5% sulfur by weight. The permittee must obtain analyses from the marketer or, if generated on site, have the used oil analyzed, so that it can be demonstrated that each shipment of oil does not exceed the used oil specifications contained in 40 CFR Part 279.11, Table 1.

## 2.0 OPERATION AND MAINTENANCE REQUIREMENTS

- 2.1. Work practices
  - a. The permittee shall at all times maintain and operate all air contaminant generating processes and all air contaminant control equipment at full efficiency and effectiveness, such that the emission of air contaminant are kept at the lowest practicable levels.
  - b. A maintenance service must be performed on the boiler at least once every two years. As a minimum, the service must include an inspection of the burners and refractory chamber, cleaning adjustment, and repair as necessary. Records of the service shall be maintained on site for a period of at least two years.

## 3.0 PLANT SITE EMISSION LIMITS

### 3.1. Plant Site Emission Limits (PSEL)

Plant site emissions must not exceed the following:

Pollutant	Limit	Units
SO <sub>2</sub>	39	tons per year
NO <sub>x</sub>	39	tons per year
CO	99	tons per year
VOC	39	tons per year

### 3.2. Annual Period

The annual plant site emissions limits apply to any 12-consecutive calendar month period.

## 4.0 COMPLIANCE DEMONSTRATION

- 4.1. Monitoring Requirements** The permittee must monitor the operation and maintenance of the plant and associated air contaminant control devices as follows:

- a. All operating and production parameters to be reported to the Department annually as required in Condition 6.0.
- b. Excess emission (recorded on occurrence)
- c. A description of any maintenance to the air contaminant control system (recorded on occurrence)

- 4.2. PSEL Compliance Monitoring** Compliance with the PSEL is determined for each 12-consecutive calendar month period based on the following calculation for each pollutant:

$$E = \Sigma(EF \times P)/2000 \text{ lbs}$$

where,

$$\begin{aligned} E &= \text{pollutant emissions (ton/yr);} \\ EF &= \text{pollutant emission factor (see condition 10.0);} \\ P &= \text{process production (see condition 11.0)} \end{aligned}$$

- 4.3. Emission Factors** The permittee must use the default emission factors provided in condition 10.0 for calculating pollutant emissions, unless alternative emission factors are approved by the Department. The permittee may request or the Department may require using alternative emission factors provided they are based on actual test data or other documentation (e.g., AP-42 compilation of emission factors) that has been reviewed and approved by the Department.

- 4.4. Mass Balance with controls** Annual VOC emissions for each 12 consecutive calendar month period are calculated by the following formula:

$$E_{\text{VOC-A}} = [\Sigma(C_X \times D_X \times K_X)(1 - CE \times DE)] - W] \times 1 \text{ ton/2000 pounds}$$

Where,

$$\begin{aligned} E_{\text{VOC-A}} &= \text{Annual VOC emissions in tons} \\ C &= \text{Material usage for the period in gallons} \\ D &= \text{Material density in pounds per gallon} \\ K &= \text{VOC concentration expressed as a decimal} \\ X &= \text{Subscript X represents a specific material} \\ CE &= \text{VOC capture efficiency expressed as a} \end{aligned}$$

decimal  
DE = Destruction efficiency  
W = Weight of VOC shipped offsite

## 5.0 RECORDKEEPING REQUIREMENTS

- 5.1. Operation and Maintenance** The permittee must maintain the following records related to the operation and maintenance of the plant and associated air contaminant control devices:
- All operating and production parameters to be reported to the Department annually as required in Condition 6.0.
  - Maintenance service record performed on the boiler.
- 5.2. Excess Emissions** The permittee must maintain records of excess emissions as defined in OAR 340-214-0300 through 340-214-0340 (recorded on occurrence). Typically, excess emissions are caused by process upsets, startups, shutdowns, or scheduled maintenance. In many cases, excess emissions are evident when visible emissions are greater than 20% opacity for 3 minutes or more in any 60-minute period.
- 5.3. Complaint Log** The permittee must maintain a log of all written complaints and complaints received via telephone that specifically refer to air pollution concerns associated to the permitted facility. The log must include a record of the permittee's actions to investigate the validity of each complaint and a record of actions taken for complaint resolution.
- 5.4. Retention of Records** Unless otherwise specified, all records must be maintained on site for a period of two (2) years and made available to the Department upon request.

## 6.0 REPORTING REQUIREMENTS

- 6.1. Excess Emissions** The permittee must notify the Department by telephone or in person of any excess emissions which are of a nature that could endanger public health.
- Such notice must be provided as soon as possible, but never more than one hour after becoming aware of the problem. Notice must be made to the regional office identified in Condition 7.3.

- b. If the excess emissions occur during non-business hours, the permittee must notify the Department by calling the Oregon Emergency Response System (OERS). The current number is 1-800-452-0311.
- c. The permittee must also submit follow-up reports when required by the Department.

## 6.2. Annual Report

For each year this permit is in effect, the permittee must submit to the Department by **February 15** two (2) copies of the following information for the previous calendar year:

- a. Operating parameters:
  - i. Annual throughput of coal tar pitch
  - ii. Annual throughput of heavy oil
  - iii. Total boiler operating time (hours/year)
  - iv. Total hot oil heater operating time (hours/year)
  - v. Highest sulfur content oil burned (obtained from supplier)
  - vi. Types and quantities of fuels burned (gallons or MMCE)
  - vii. Average plant operating schedule (hours/day, days/week, weeks/year)
- b. Computations of total VOC and HAPs emissions for any 12 consecutive months period.
- c. Records of all planned and unplanned excess emissions events.
- d. Summary of complaints relating to air quality received by permittee during the year.
- e. List permanent changes made in plant process, production levels, and pollution control equipment which affected air contaminant emissions.
- f. List major maintenance performed on pollution control equipment.

## 6.3. Initial Startup Notice

The permittee must notify the Department in writing of the date a new facility is started up. The notification must be submitted no later than seven (7) days after startup.

## 6.4. Relocation Notice

The permittee must not install or operate the facility or any portion of the facility at any new site without first providing written notice to the Permit Coordinator in the appropriate regional office. The written notice must include the date of the

proposed move, approximate dates of operation, a detailed map showing access to the new site, and a description of the air pollution controls and procedures to be installed, operated, and practiced at the new site. Additional permits may be required if the permittee operates individual components of the facility at more than one site at a time.

**6.5. Notice of Change of Ownership or Company Name**

The permittee must notify the Department in writing using a Departmental "Permit Application Form" within 60 days after the following:

- a. Legal change of the name of the company as registered with the Corporations Division of the State of Oregon; or
- b. Sale or exchange of the activity or facility.

**6.6. Construction or Modification Notices**

The permittee must notify the Department in writing using a Departmental "Notice of Construction Form," or "Permit Application Form," and obtain approval in accordance with OAR 340-210-0205 through 340-210-0250 before:

- a. Constructing, installing, or establishing a new stationary source that will cause an increase in any regulated pollutant emissions;
- b. Making any physical change or change in operation of an existing stationary source that will cause an increase, on an hourly basis at full production, in any regulated pollutant emissions; or
- c. Constructing or modifying any air pollution control equipment.

**6.7. Where to Send Reports and Notices**

The reports, with the permit number prominently displayed, must be sent to the Permit Coordinator for the region where the source is located as identified in Condition 7.3.

## **7.0 ADMINISTRATIVE REQUIREMENTS**

**7.1. Permit Renewal Application**

The completed application package for renewal of this permit is due on July 1, 2007. Two (2) copies of the application must be submitted to the DEQ Permit Coordinator listed in condition 7.3.

**7.2. Permit Modifications**

Application for a modification of this permit must be submitted not less than 60 days prior to the source modification. A special activity fee must be submitted with an application for the permit modification. The fees and two (2) copies of the application must be submitted to the Business Office of the Department.

**7.3. Permit  
Coordinator  
Address**

All reports, notices, and applications should be directed to the Permit Coordinator for the area where the source is located. The Permit Coordinator addresses are as follows:

Department of Environmental Quality  
Northwest Region  
2020 SW 4th Avenue, Suite 400  
Portland, OR 97201-4987  
Telephone: (503) 229-5582

**7.4. Department  
Contacts**

Information about air quality permits and the Department's regulations may be obtained from the DEQ web page at [www.deq.state.or.us](http://www.deq.state.or.us). All inquiries about this permit should be directed to the regional office for the area where the source is located. The Department's regional offices are as follows:

Department of Environmental Quality  
Portland Office  
2020 SW 4th Avenue, Suite 400  
Portland, OR 97201-4987  
Telephone: (503) 229-5554

**8.0 FEES****8.1. Annual  
Compliance Fee**

The Annual Fee specified in OAR 340-216-0020, Table 2, Part 2 for a Simple ACDP is due on **December 1** of each year this permit is in effect. An invoice indicating the amount, as determined by Department regulations, will be mailed prior to the above date.

**8.2. Change of  
Ownership or  
Company Name  
Fee**

The non-technical permit modification fee specified in OAR 340-216-0020, Table 2, Part 3(a) is due with an application for changing the ownership or the name of the company.

**8.3. Special Activity  
Fees**

The special activity fees specified in OAR 340-216-0020, Table 2, Part 3 (b through i) are due with an application to modify the permit.

**8.4. Where to Submit  
Fees**

Fees must be submitted to:

Department of Environmental Quality  
Business Office  
811 SW Sixth Avenue  
Portland, Oregon 97204-1390

## **9.0 GENERAL CONDITIONS AND DISCLAIMERS**

- 9.1. Permitted Activities** This permit allows the permittee to discharge air contaminants from processes and activities related to the air contaminant source(s) listed on the first page of this permit until this permit expires, is modified, or is revoked.
- 9.2. Other Regulations** In addition to the specific requirements listed in this permit, the permittee must comply with all other legal requirements enforceable by the Department.
- 9.3. Conflicting Conditions** In any instance in which there is an apparent conflict relative to conditions in this permit, the most stringent conditions apply.
- 9.4. Masking of Emissions** The permittee must not cause or permit the installation of any device or use any means designed to mask the emissions of an air contaminant that causes or is likely to cause detriment to health, safety, or welfare of any person or otherwise violate any other regulation or requirement.
- 9.5. Department Access** The permittee must allow the Department's representatives access to the plant site and pertinent records at all reasonable times for the purposes of performing inspections, surveys, collecting samples, obtaining data, reviewing and copying air contaminant emissions discharge records and conducting all necessary functions related to this permit in accordance with ORS 468-095.
- 9.6. Permit Availability** The permittee must have a copy of the permit available at the facility at all times.
- 9.7. Open Burning** The permittee may not conduct any open burning except as allowed by OAR 340 Division 264.
- 9.8. Asbestos** The permittee must comply with the asbestos abatement requirements in OAR 340, Division 248 for all activities involving asbestos-containing materials, including, but not limit to, demolition, renovation, repair, construction, and maintenance.
- 9.9. Property Rights** The issuance of this permit does not convey any property rights in either real or personal property, or any exclusive privileges, nor does it authorize any injury to private property or any invasion of personal rights, nor any infringement of federal, state, or local laws or regulations.
- 9.10. Termination, Revocation, or Modification** The Department may modify or revoke this permit pursuant to OAR 340-216-0082 and 340-216-0084.

**10.0 EMISSION FACTORS***Please complete*

Emissions device or activity	Pollutant	Emission Factor (EF)	EF units	EF reference

**11.0 PROCESS/PRODUCTION RECORDS**

Emissions device or activity	Process or production parameter	Frequency



## 12.0 ABBREVIATIONS, ACRONYMS, AND DEFINITIONS

ACDP	Air Contaminant Discharge Permit	NSR	New Source Review
ASTM	American Society for Testing and Materials	O <sub>2</sub>	oxygen
AQMA	Air Quality Maintenance Area	OAR	Oregon Administrative Rules
calendar year	The 12-month period beginning January 1st and ending December 31st	ORS	Oregon Revised Statutes
CFR	Code of Federal Regulations	O&M	operation and maintenance
CO	carbon monoxide	Pb	lead
DEQ	Oregon Department of Environmental Quality	PCD	pollution control device
dscf	dry standard cubic foot	PM	particulate matter
EPA	US Environmental Protection Agency	PM <sub>10</sub>	particulate matter less than 10 microns in size
FCAA	Federal Clean Air Act	ppm	part per million
gal	gallon(s)	PSD	Prevention of Significant Deterioration
gr/dscf	grains per dry standard cubic foot	PSEL	Plant Site Emission Limit
HAP	Hazardous Air Pollutant as defined by OAR 340-244-0040	PTE	Potential to Emit
I&M	inspection and maintenance	RACT	Reasonably Available Control Technology
lb	pound(s)	scf	standard cubic foot
MMBtu	million British thermal units	SER	Significant Emission Rate
NA	not applicable	SIC	Standard Industrial Code
NESHAP	National Emissions Standards for Hazardous Air Pollutants	SIP	State Implementation Plan
NO <sub>x</sub>	nitrogen oxides	SO <sub>2</sub>	sulfur dioxide
NSPS	New Source Performance Standard	Special Control Area	as defined in OAR 340-204-0070
		VE	visible emissions
		VOC	volatile organic compound
		year	A period consisting of any 12-consecutive calendar months

SM Prmt.doc

## INTEROFFICE COMMUNICATION

To: J. T. Dietz  
Location: K-1650  
Subject: May Highlights

From: A. S. Kameron  
Location: Portland  
Date: 06/04/99

### PLANT OPERATIONS

### SAFETY/ENVIRONMENTAL

	<u>MONTH</u>	<u>YTD</u>
HOURS WORKED	2,019	10,693
LOSS TIME ACCIDENTS	0	0

There were no loss time accidents or OSHA reportable incidents during the month. We had an unannounced RCRA visit from ODEQ last week. They found 2 situations that they were concerned about and asked for some additional information. To date, we have not seen their written report on the matter. We finally received our new Air Containment Discharge Permit, this has taken almost 2 years to accomplish.

### SHIPMENTS/PRODUCTION

<u>COMMODITY</u>	<u>UNIT</u>	<u>MONTH</u>	<u>YTD</u>	<u>PRIOR YTD</u>	<u>Inc/Dec. YTD</u>
CREOSOTE	GALS	0	10,333	141,592	-131,259
PENCIL PITCH	TONS	76.0	320.4	447.8	-127.4
LIQUID PITCH	TONS	2,993.3	15,947.4	11,908.1	4,039.3
INTALCO TRANSSHIPMENT	TONS	2,528.1	10,269.3	9,707.5	561.8
TOTAL LIQUID SHIPPED	TONS	5,521.4	26,216.7	21,615.6	4,601.1
MELTER PRODUCTION	TONS	5,683.5	26,409.4	22,154.9	4,254.5

This was our third largest production month ever, and our second largest shipment month ever, for liquid melter pitch. We shipped 4 truck loads of pencil target pitch, plus 89 truck loads and 28 tank car loads of liquid pitch. We also unloaded a 6,600 ton vessel of Korean pencil pitch.

### MANUFACTURING COSTS (000)

<u>ACTUAL</u>	<u>MONTH ESTIMATE</u>	<u>PROGRAM</u>	<u>ACTUAL</u>	<u>YEAR TO DATE PROGRAM</u>	<u>+/- \$</u>
\$154	\$165	\$174	\$805	\$864	-\$59

#### TQM UPDATES/PRODUCTION IMPROVEMENTS

Nothing new to report here. We are still in the early stages of the review of the pitch tank car unloading project.

#### Y2K

Portland's review is completed and we are compliant.

#### LIQUID PITCH CAPITAL PROJECT

The mechanical contractor has all of the pipeline foundations in place and has fabricated about 65/70% of the actual pipeline. The electrical contractor has started their conduit runs from the dock end and is making good progress. The pile driving for the tank foundation will be completed early next week. They have scheduled the concrete pour for June 17<sup>th</sup>.

#### FUTURE ACTIVITIES

We have a 2,200 ton vessel of Korean pencil pitch due in next month.

#### SALES

ALCOA-WENATCHEE: Tom Baron and I visited here during the month. We reviewed the new specs and data reporting requirements. I reviewed the liquid project. They expect to start top unloading of the pitch tank cars by the end of the month.

CFAC: Nothing to report here.

INTALCO: Tom Baron and I visited here during the month as well. Again, the new specs and data reporting requirements were reviewed. I gave an update on the liquid project. We reviewed some LTI logistic issues that they had.

KAISER - MEAD & TACOMA: I attended the Bi-annual Quality/Technical meeting in Tacoma. It was a good meeting, mostly all minor issues.

VANALCO: They used up the last of our Anchan pitch during the month. The first vessel from Anchan, via Reilly/Handy, using the bag to bulk loading method, is on its way, with an ETA of 6/30/99. I hope this works with the Port of Longview.

Amos S. Kameron

cc: T.J. Turner

## Koppers Portland, Oregon Terminal

### SITE DESCRIPTION

- Marine, rail, truck bulk liquids terminal.
- Additional unheated, covered storage.

*RAILY STORAGE*  
*FBB*

### BACKGROUND

- September 2001 should be last pitch shipments.
- Site available immediately thereafter.
- Alcoa indicates interest in 4<sup>th</sup> quarter 2003.
- Terminal used in coal tar products service for last 30 years.
- Koppers lease on land runs through 2008.

### OPTIONS

- Find new products & operate.  
Incorporate Alcoa business in 4<sup>th</sup> quarter 2003.
- Lease facilities to third party.  
Third party incorporates Alcoa in 4<sup>th</sup> quarter, 2003.
- Shut down, close doors, and absorb loss.  
Start up with Alcoa as base 4<sup>th</sup> quarter 2003.

### COSTS

- \$ 0.7 mil non-cash expense (depreciation).
- \$1.1 mil expense shut down
- \$ 1.8 mil to \$1.9 mil operating

*— PLAN - SUSPENSION*

### LEADS

- Pacific Rock  
Asphalt: rail in, storage, truck out  
Potential Revenue \$.9 mil + or - \$.3
- Great Western  
Caustic: uses ship unloading  
Potential Revenue \$.275 mil +  
Requires investment/cleaning
- PTSI  
Terminal operators  
Reduces Koppers cost to \$.85 mil  
Requires loan, giving PTSI the site
- KOCH, IMTT & Chevron  
Still interested

As of 6-13-2001

**Koppers Industries, Inc.**  
**Northwest Terminal**  
**7540 NW Saint Helens Road**  
**Portland, Oregon 97210**  
**Tele. 503/286-3681**  
**Fax. 503/285/2831**

### **Fact sheet**

**Railroad:** Portland & Western RR, short line carrier off of the BNSFRR main line.  
9 spots on the inner track and 20 spots on the outer track  
There is a \$75 switching fee between the 2 tracks.

**Marine facilities:** Gasco Dock, Columbia River, Portland, Oregon, for only liquid products.  
The dock is considered to be a Panamax size facility, with a max. vessel length of 800'.  
The normal mean low water draft is 34', but this can change at various time of the year, depending on the water conditions on the river.

**Truck Loading:** Available, however, there no scales on site.  
Public scales are located with in 5 miles of the terminal.  
This scale is 82' long, with a max. capacity of 120,000#

**Warehouse storage:** 46,500 SF of covered area.

#### **Available tankage:**

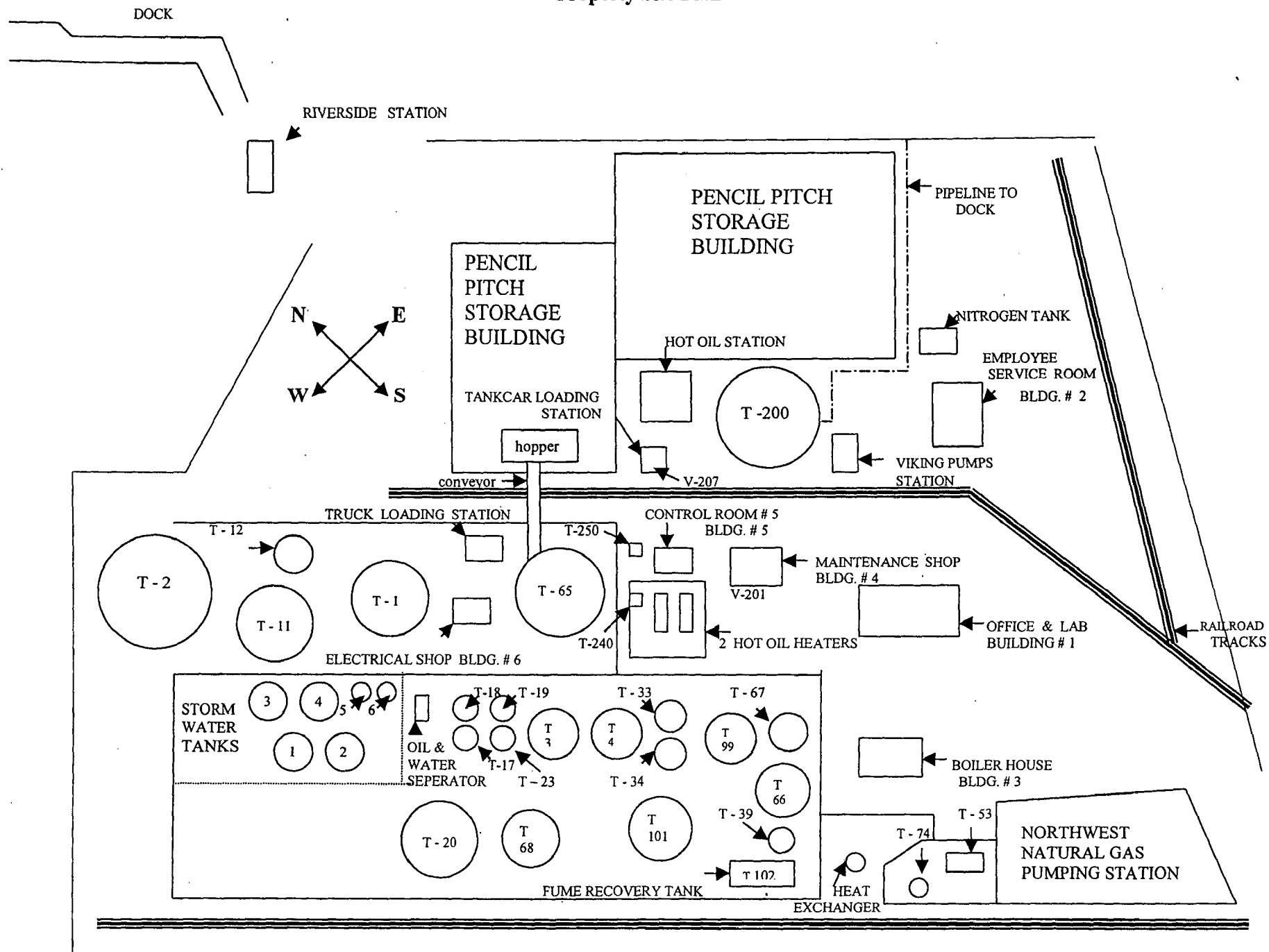
<u>Tank #</u>	<u>Capacity(gals.)</u>	<u>Heating type</u>	<u>Max. Heat available</u>
1	660,000	None	N/A
11	250,000	None	N/A
33	45,000	Steam	250 F
34	45,000	Steam	250 F
65	760,000	Hot Oil	450 F
67	100,000	Steam	250 F
68	245,000	Hot Oil	450 F
200	2,000,000	Hot Oil	450 F

Tanks 65, 68 & 200 are connected to a fume recovery system, as are the truck and rail car load out stations.

The boiler is a 440 HP, 130-PSI low-pressure steam.

There are 2 hot oil heater units; one is a 10 MMBtu unit and the other is an 8 MMBtu unit, that service tanks 65, 68, 200 and related piping system to them and the load out stations.

# Property Site Plan



## Portland Terminal 2001

<b>Fixed Costs</b>	<b>Annual(million)</b>
Non-cash(Depreciation)	\$0.7
Cash(not running)	\$0.4
<u>Cash Additional running</u>	<u>\$0.6</u>
	\$1.7

<b>Variable Costs</b>	
Some Utilities, extra M&R	\$6.00 per ton

**Asphalt Distribution**

- \$12 to \$35 per ton expected revenue for rail inbound asphalt, tank storage, truck outbound  
\$12/ton for short term, higher \$ for long term arrangement
- Cleaning of large pitch tank not necessary
- Inbound asphalt @ ambient temperature(50 F)  
Outbound asphalt @ 320 F  
Heat 1 ton 270 F in rail car = \$4.50 per ton
- Estimated Economics for Portland Terminal

<b>Revenues</b>	<u>Throughput(short tons)</u>					
		20,000	25,000	30,000	35,000	40,000
<u>Fee(\$/ton)</u>	\$10	\$200,000	\$250,000	\$300,000	\$350,000	\$400,000
	\$15	\$300,000	\$375,000	\$450,000	\$525,000	\$600,000
	\$20	\$400,000	\$500,000	\$600,000	\$700,000	\$800,000
	\$25	\$500,000	\$625,000	\$750,000	\$875,000	\$1,000,000
	\$30	\$600,000	\$750,000	\$900,000	\$1,050,000	\$1,200,000
	\$35	\$700,000	\$875,000	\$1,050,000	\$1,225,000	\$1,400,000

<b>Cost</b>	<u>Throughput(short tons)</u>				
	20,000	25,000	30,000	35,000	40,000
	\$1,820,000	\$1,850,000	\$1,880,000	\$1,910,000	\$1,940,000

Profit/Loss		Throughput(short tons)				
		20,000	25,000	30,000	35,000	40000
Fee(\$/ton)	\$10	-\$1,620,000	-\$1,600,000	-\$1,580,000	-\$1,560,000	-\$1,540,000
	\$15	-\$1,520,000	-\$1,475,000	-\$1,430,000	-\$1,385,000	-\$1,340,000
	\$20	-\$1,420,000	-\$1,350,000	-\$1,280,000	-\$1,210,000	-\$1,140,000
	\$25	-\$1,320,000	-\$1,225,000	-\$1,130,000	-\$1,035,000	-\$940,000
	\$30	-\$1,220,000	-\$1,100,000	-\$980,000	-\$860,000	-\$740,000
	\$35	-\$1,120,000	-\$975,000	-\$830,000	-\$685,000	-\$540,000

Cash Flow		Throughput(short tons)				
		20,000	25,000	30,000	35,000	40000
<u>Fee(\$/ton)</u>	\$10	-\$920,000	-\$900,000	-\$880,000	-\$860,000	-\$840,000
	\$15	-\$820,000	-\$775,000	-\$730,000	-\$685,000	-\$640,000
	\$20	-\$720,000	-\$650,000	-\$580,000	-\$510,000	-\$440,000
	\$25	-\$620,000	-\$525,000	-\$430,000	-\$335,000	-\$240,000
	\$30	-\$520,000	-\$400,000	-\$280,000	-\$160,000	-\$40,000
	\$35	-\$420,000	-\$275,000	-\$130,000	\$15,000	\$160,000

## Leads

### Pacific Rock LLC

**Purpose:** Asphalt Distribution

**Estimated Volume:** 25,000 to 37,500 tons, could grow in future

**Modes:** Rail inbound, truck outbound

**Background:** Pacific Rock is in process of negotiating lease on land next to our terminal.

Pac Rock will store aggregate and run a cement plant on the adjacent site.

Using the Koppers terminal for asphalt distribution keeps Pac Rock from investing their own capital in asphalt storage and distribution.

**Fees:** Pac Rock stated they would pay from \$25 to \$35 per ton for terminal services.

#### Economics:

Profit/Loss	Throughput(short tons)			
	25,000	30,000	35,000	40,000
\$25	-\$1,225,000	-\$1,130,000	-\$1,035,000	-\$940,000
\$30	-\$1,100,000	-\$980,000	-\$860,000	-\$740,000
\$35	-\$975,000	-\$830,000	-\$685,000	-\$540,000

Cash Flow	Throughput(short tons)			
	25,000	30,000	35,000	40,000
\$25	-\$525,000	-\$430,000	-\$335,000	-\$240,000
\$30	-\$400,000	-\$280,000	-\$160,000	-\$40,000
\$35	-\$275,000	-\$130,000	\$15,000	\$160,000



## Leads

### Pacific Terminal Services, Inc

**Purpose:** Distribution of Liquid Bulk Products.

**Estimated Volume:** ?

**Modes:** Ship inbound, Rail inbound, truck outbound

**Background:** PTSI operates terminals.

**Fees:** PTSI assumes land lease, insurance & maintenance(\$250,000)  
Koppers terminates operations.  
Koppers cleans tanks, as needed and agreed to.  
Koppers loans PTSI \$250,000.  
Koppers leases leasehold improvements to PTSI for \$1/mo.  
Koppers gives PTSI leasehold improvements in 2008.  
Koppers gets 5% of revenue over \$1.2 mil/yr.

#### **Economics:**

Koppers accounting cost \$.85 mil/yr  
Koppers cash outlay \$.15 mil/yr  
Loss of entire terminal by this proposal

## Leads

### Pacific Terminal Services, Inc

**Purpose:** Distribution of Liquid Bulk Products.

**Estimated Volume:** ?

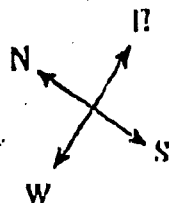
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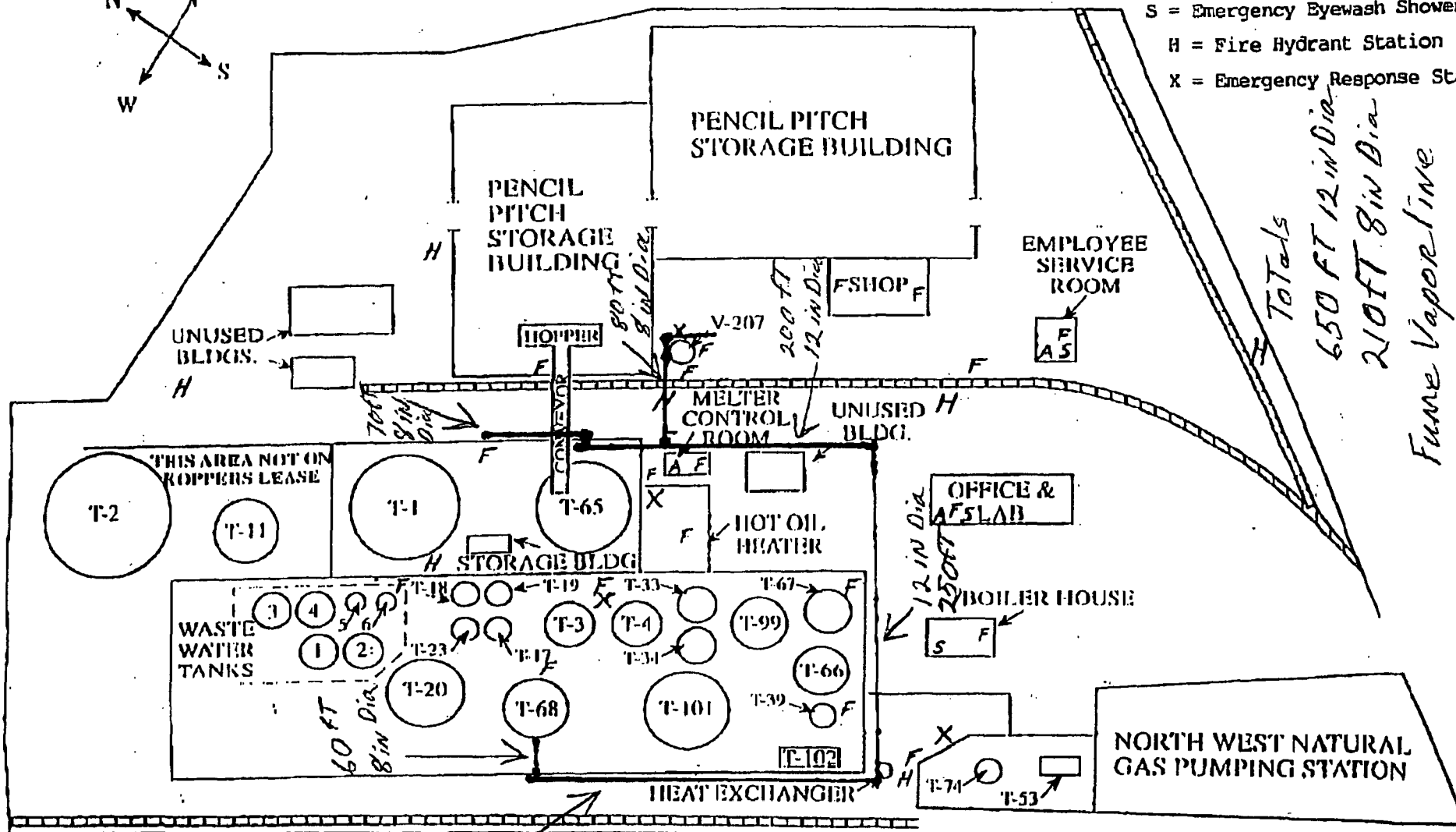
#### **Economics:**

Koppers accounting cost \$.85 mil/yr  
Koppers cash outlay \$.15 mil/yr  
Loss of entire terminal by this proposal



\*\*\*\* LEGEND \*\*\*\*

- F = Fire Extinguishers
- A = First Aid Station
- S = Emergency Eyewash Shower
- H = Fire Hydrant Station
- X = Emergency Response Stat.



PROPERTY SITE PLAN

Post-it® Fax Note 7671		Date 2-13-98	# of pages 2
To Jack Stephenson		From T.J.	
Co./Dept.		Co. Koppers	
Phone #		Phone # 503 285 2681	
Fax # 503 285 2681		Fax # 503 285 2831	

FEB-13-98 FRI 10:35 AM KOPPERS IND

FAX NO. 503 285 2831

P. 1

Koppers001358

## PIPE LINE SPECS.

a - b - c - d - e - f

## a - COMMODITY LIST

LIST PROCESS COMMODITIES FIRST THEN UTILITIES

- 1 COAL TAR PITCH
- 2 COAL TAR VENT FUMES
- 3 HEAT TRANSFER OIL
- 4 RAIN WATER
- 5 NATURAL GAS
- 6 NITROGEN - GAS
- 7 NITROGEN - LIQUID
- 8 WASTE WATER
- 9 OILY WASTES
- 10 FLUE GASES
- 11 STEAM
- 12
- 13
- 14
- 15

## b - LINE NUMBER

SECTION OF PIPE LINES WITH UNIQUE NUMBERS STARTING WITH 201

## c - PIPELINE SPECIFICATION OR MATERIAL OF CONSTRUCTION

- 1 CARBON STEEL, BUTT WELDED
- 2 CARBON STEEL, SW, ISO8 FLANGE
- 3 CARBON STEEL, THREADED
- 4 STAINLESS STEEL, SW

## d - PIPE SIZE/SCHEDULE

NOMINAL PIPE SIZE IN INCHES  
PIPE SCHEDULE OR WALL THICKNESS

## e - INSULATION IDENTIFICATION

- A ACoustically INSULATED  
C CONDENSATION CONTROL INSULATION  
E ELECTRICALLY TRACED & INSULATED  
H INSULATED FOR HEAT CONSERVATION  
JO OIL JACKETED  
JS STEAM JACKETED  
JW WATER JACKETED  
N NOT INSULATED  
O HOT OIL TRACED & INSULATED  
P INSULATED FOR PERSONNEL PROTECTION  
S STEAM TRACED & INSULATED  
T TRACER - INSTALLED WITH HOST COMPONENT  
U UNDERGROUND  
V HOT WATER TRACED & INSULATED

## f - INSULATION TYPE/THICKNESS

- C CALCIUM SILICATE  
F FIBERGLASS  
G FOAMGLASS  
H MINERAL WOOL

## LINE TYPE DESIGNATION

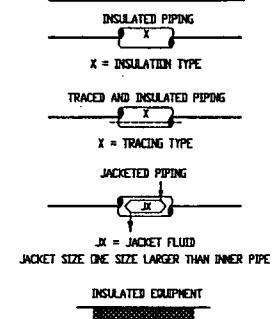
MAJOR PROCESS PIPING	EQUIPMENT
MAJOR EXISTING PROCESS PIPING	EQUIPMENT HIDDEN
MAJOR FUTURE PROCESS PIPING	EQUIPMENT EXISTING
MINOR PROCESS PIPING	EQUIPMENT FUTURE
MINOR EXISTING PROCESS PIPING	VENDOR
MINOR FUTURE PROCESS PIPING	

## EQUIPMENT NUMBER

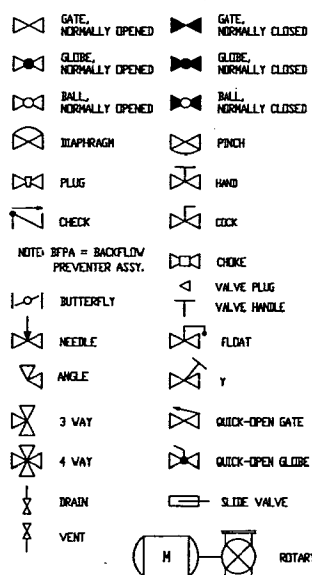
A E-1000 B  
A = EQUIPMENT TYPE B = SEQUENCE NUMBER

- A - AGITATOR, MIXER, BLENDER  
B - BLOWER, FAN, COMPRESSOR, GAS EJECTOR  
C - CONVEYOR, ELEVATOR  
E - EXCHANGER, HEATER, COOLING TOWER, BOILER  
H - HOIST  
M - MILL, GRINDER, EXTRUDER  
N - CONTROL PANEL  
P - PUMP, LIQUID EJECTOR  
R - REACTOR  
S - SCREENER, FILTER, CYCLONE, DUST COLLECTOR, STRAINER, THICKENER  
T - TANK, NON-CODE VESSEL, SILO, BIN  
V - VESSEL, TOWER, DRUM  
X - MISCELLANEOUS, EQUIPMENT

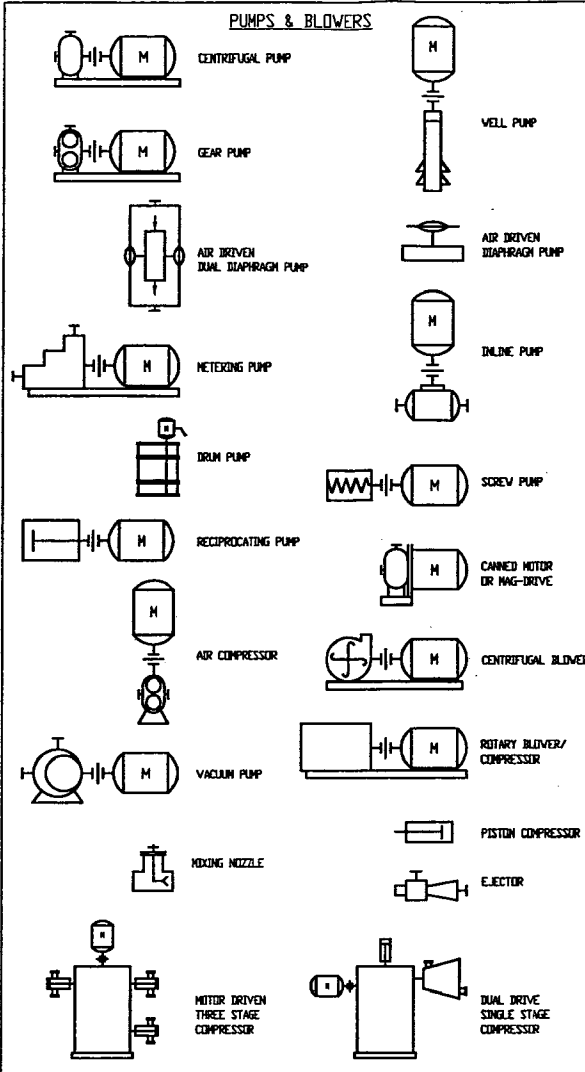
## INSULATION DESIGNATION



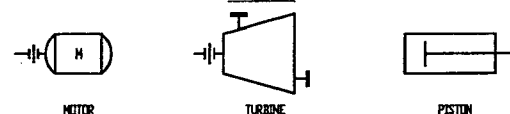
## VALVE SYMBOLS



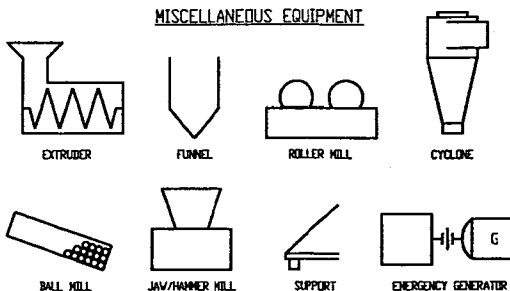
## PUMPS &amp; BLOWERS



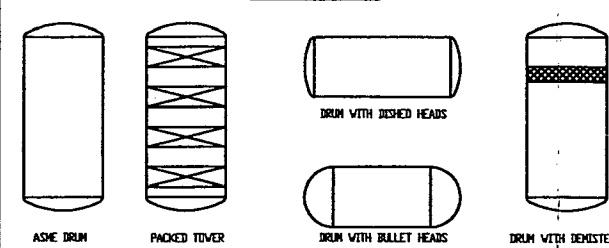
## DRIVERS



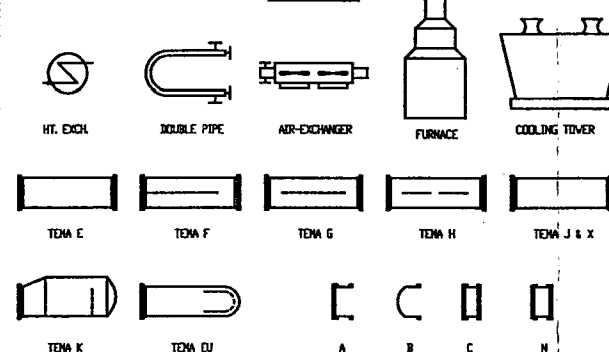
## MISCELLANEOUS EQUIPMENT



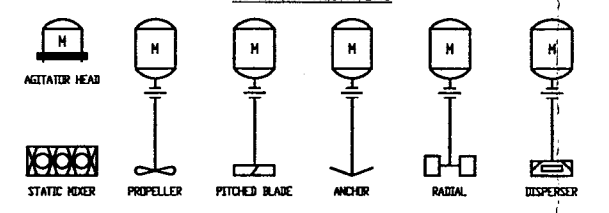
## DRUMS &amp; TOWERS



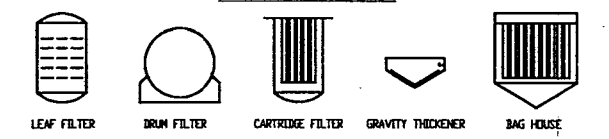
## EXCHANGERS



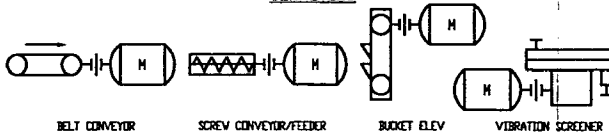
## MIXERS &amp; AGITATORS



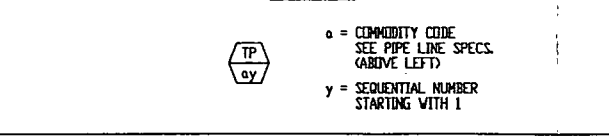
## FILTERS &amp; THICKENERS



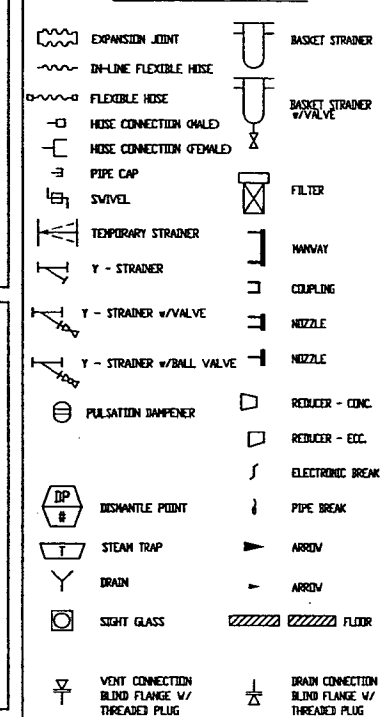
## CONVEYORS



## TIE-POINTS



## MISCELLANEOUS SYMBOLS



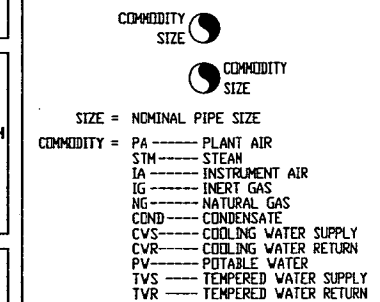
SIZE COMMODITY  
DWG. NO. FROM DESCRIPTION  
FROM ARROW

COMMODITY SIZE  
TO DESCRIPTION DWG. NO. TO ARROW

SIZE COMMODITY  
FROM DESCRIPTION  
FROM COMMODITY ARROW

COMMODITY SIZE  
TO DESCRIPTION TO COMMODITY ARROW

## UTILITY HEADER



FOR APPROVAL

AUG 20 1998

REFERENCE	DWG. NO.
-----------	----------

ChemTech

Consultants, Inc.

Bridgeville, Pennsylvania 15017

DESIGNED BY	DATE	CHECKED BY	DATE
GARRITY	JUL 23 98		AUG 20 98
DRAWING NO.	6526-D002	REV. NO.	1139
APPROVED BY		DATE	

REVISION	DESCRIPTION	CHECKED BY	DATE
1	FOR APPROVAL		

NAME	DATE
DESIGNED BY SCG	7/27/98
CHECKED BY	
APPROVED BY	

KOPPERS INDUSTRIES

Pittsburgh, Pennsylvania 15229

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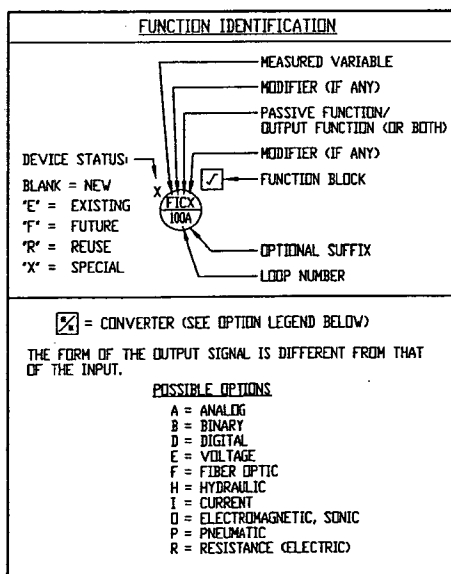
PORTLAND TERMINAL	B.M. NO.	SCALE: NONE	REVISION
LIQUID PITCH UNLOADING MECHANICAL LEGEND SHEET P & I DIAGRAM	6526-D002	B	

FUNCTION IDENTIFICATION LETTER CODE (FOR NEW INSTRUMENT TAGS)				
FIRST LETTER		SUCCEEDING LETTERS		
MEASURED VARIABLE	MODIFIER	PASSIVE FUNCTION	OUTPUT FUNCTION	MODIFIER
A ANALYSIS		ALARM		
B BURNER ( FLAME )				
C USER'S CHOICE		ARRESTER	CONTROL	CLOSED
D DENSITY	DIFFERENTIAL			
E VOLTAGE		SENSOR (ELEMENT)		
F FLOW	RATIO			FORWARD
G USER'S CHOICE		GLASS VIEWING DEVICE		
H HAND ( MANUAL )				HIGH
I CURRENT (ELECTRICAL)		INDICATE		
J POWER	SCAN			
K TIME, TIME SCHEDULE	RATE OF CHANGE		CONTROL STATION	
L LEVEL		LIGHT		LOW
M MOISTURE/HUMIDITY	MOMENTARY			MODULO
N USER'S CHOICE				
O OPERATION		ORIFICE, RESTRICTION		OPENED
P PRESSURE, VACUUM		TEST POINT		
Q QUANTITY	INTEGRATE, TOTALIZE			
R RADIATION	SAFETY	RECORD		REVERSE
S SPEED, FREQUENCY			SWITCH	
T TEMPERATURE			TRANSMIT	
U MULTIVARIABLE		MULTIFUNCTION	MULTIFUNCTION	MULTIFUNCTION
V VIBRATION			VALVE, DAMPER, LOUVER	
W WEIGHT, FORCE		WELL		
X UNCLASSIFIED	X AXIS	UNCLASSIFIED	UNCLASSIFIED	UNCLASSIFIED
Y EVENT, PRESENCE, MOTOR	Y AXIS		RELAY, COMPUTE	
Z POSITION, DIMENSION	Z AXIS		DRIVER, ACTUATOR	

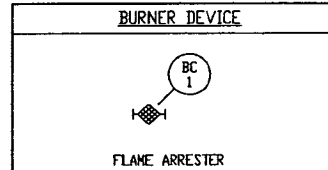
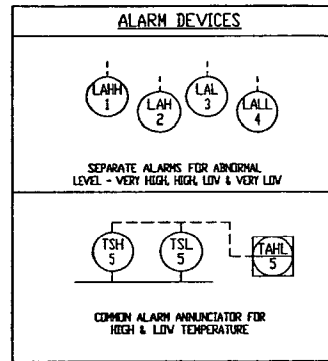
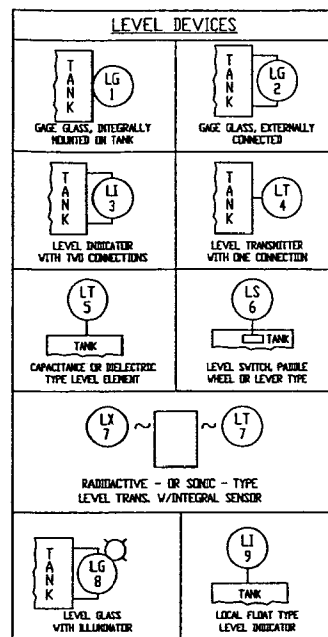
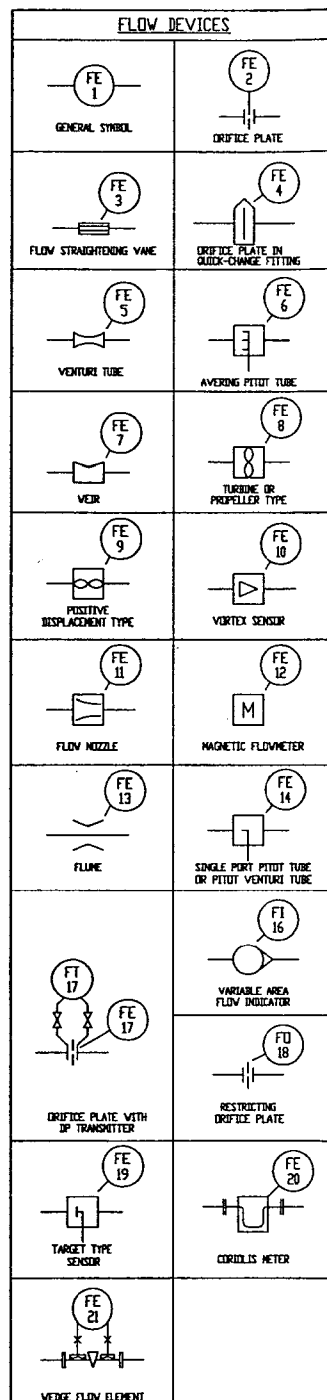
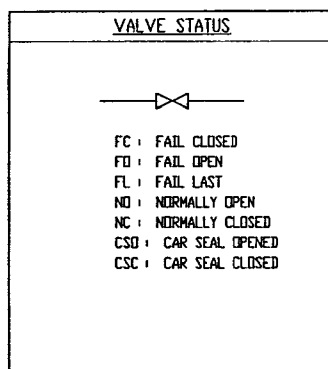
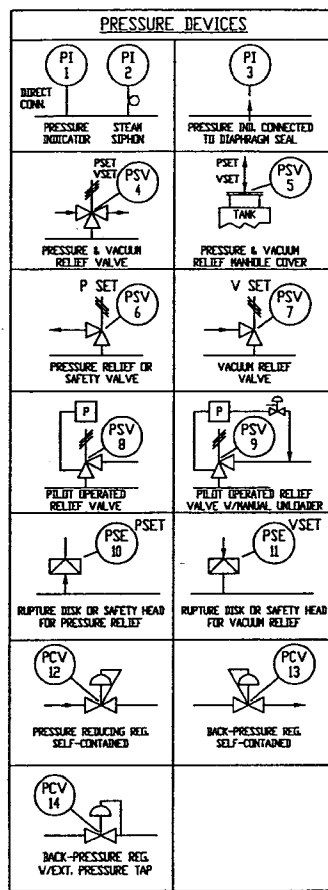
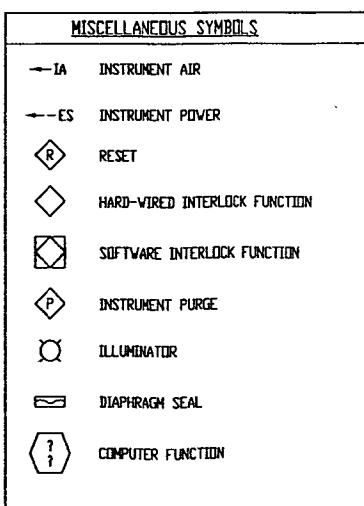
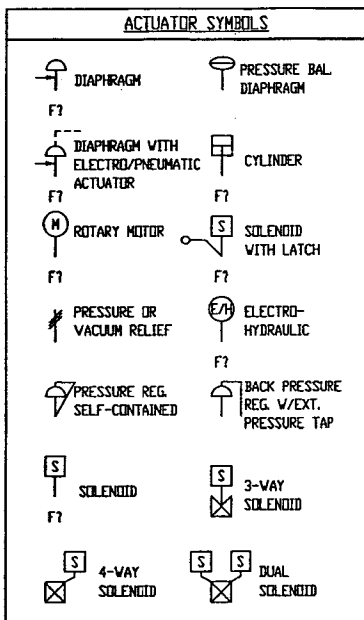
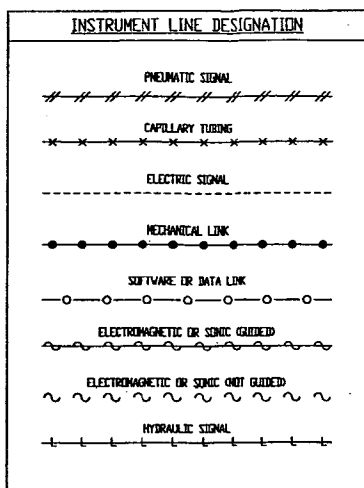
DEVICES			
	AUX PANEL	VENDOR	
LOCALLY MOUNTED			
PANEL MOUNTED			
REAR MOUNTED			
LOCALLY MOUNTED LIGHT			
PANEL MOUNTED LIGHT			

FUNCTION SYMBOLS			
	PLC	DCS	
DISPLAYED ON CRT			
BLIND FUNCTION			
MANUAL BACKUP			
REAR PANEL (INACCESSIBLE)			



FUNCTION BLOCKS			
= START	= SUMMATION	= MULTIPLY	
= STOP	= DIVIDE	= SQUARE ROOT	
= START / STOP	= GAIN OR ATTENUATE / RATIO	= INTEGRAL	
= ON / OFF	= DIFFERENTIAL	= AVERAGE	
= AUTO / MANUAL	= BIAS	= BOOST	
= HAND / OFF / AUTO	= TIME FUNCTION	= USER DEFINED	
= HIGH LIMIT			
= LOW LIMIT			
= HIGH SELECT			
= LOW SELECT			
= CONVERTER			
= JOG			



FOR APPROVAL

AUG 20 1998

REFERENCE	DWG. NO.
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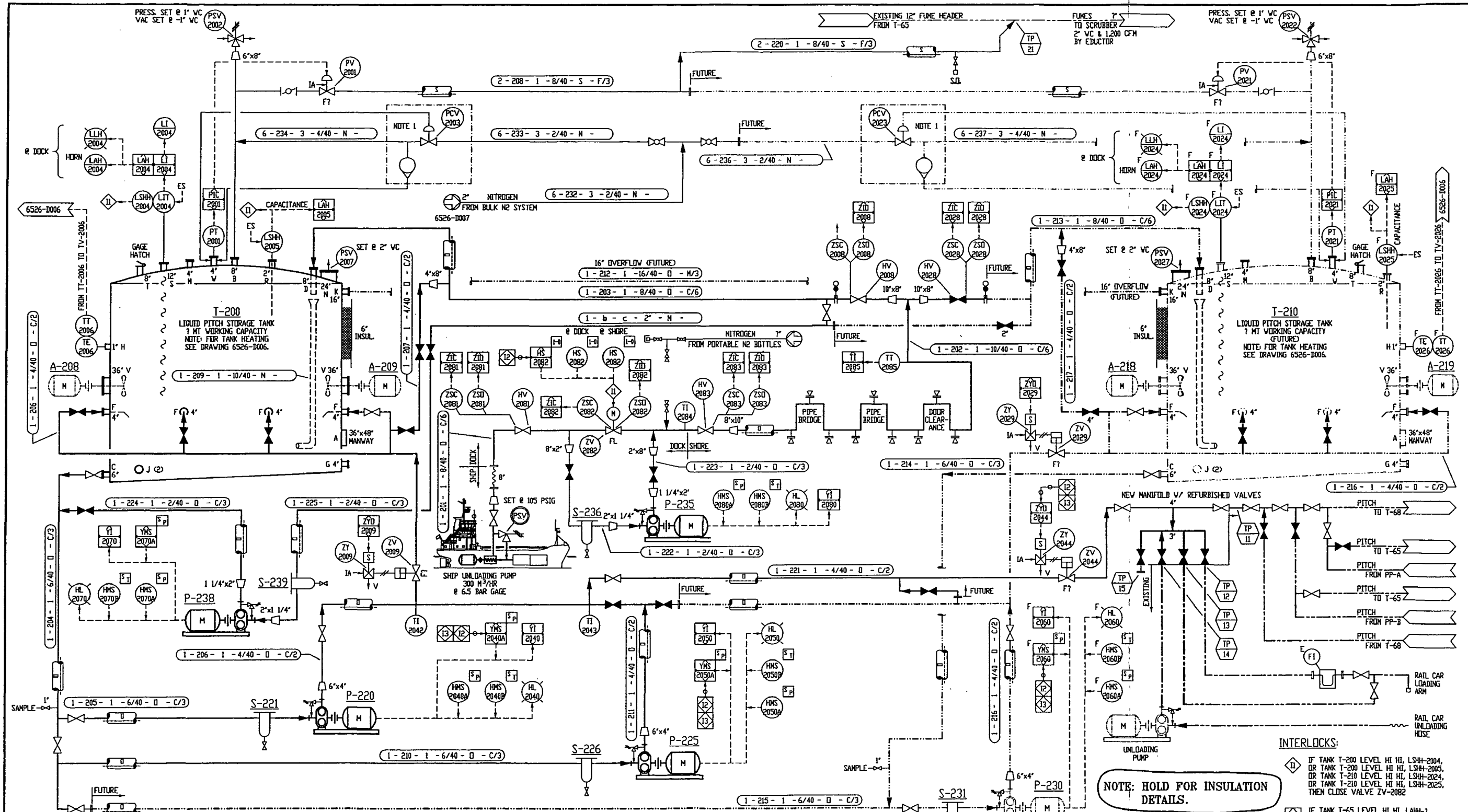
<b>ChemTech</b> Consultants, Inc. Bridgeville, Pennsylvania 15017 (412) 221-1100			
DESIGNED BY GARRITY	DATE JUL 23 98	REVIEWED BY DATE AUG 05 98	CHECKED BY DATE 1303
6526-D003			

FOR APPROVAL	REVISION
DESCRIPTION	CHECKED BY DATE

NAME	DATE
DRAWN BY: SCG	7/27/98
CHECKED BY:	
APPROVED BY:	

<b>KOPPERS INDUSTRIES</b> Pittsburgh, Pennsylvania 15229 <small>This drawing and all information hereon is the property of Koppers Industries, Inc. and is confidential and shall not be made public or copied without written consent by K. and is subject to patent laws.</small>	PORTLAND TERMINAL B.M. NO. SCALE: NONE REVISION
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LIQUID PITCH UNLOADING INSTRUMENT LEGEND SHEET P & I DIAGRAM	6526-D003 B
--	-------------



P-238  
PITCH EVACUATOR PUMP  
GEAR  
13 GPM/120 PSID  
1 1/4" x 1 1/4"  
3 HP/1750 RPM  
ROTAN SIZE 33 OR EQUAL

**T-200 HOLD**  
LIQUID PITCH  
STORAGE TANK  
57' H x 79' O.D.  
DESIGN PRESS: 2" x 1/4" VG  
DESIGN TEMP: 475°F

A-208, A-209  
SIDE ENTERING AGITATOR  
SV/VEL TYPE  
40 HP/Speed  
PLENTY SV/VEL TYPE  
28P-STH-40 HP/85 mm SHAFT  
(FUTURE)

P-220, P-225  
PITCH TRANSFER PUMP  
GEAR  
312 GPM/130 PSID  
50 HP/280 RPM  
ROTAN SIZE 152 OR EQUAL

S-221, S-226  
STRAINER (FUTURE)  
1/8" SCREEN  
Lg/Hgt x Diameter  
Oper/Design Press  
Oper/Design Temp  
VIKING OR EQUAL

S-236, S-239  
STRAINER  
1/8" SCREEN  
Lg/Hgt x Diameter  
Oper/Design Press  
Oper/Design Temp  
VIKING OR EQUAL

P-235  
DOCK PITCH EVACUATOR PUMP  
GEAR  
13 GPM/120 PSID  
1 1/4" x 1 1/4"  
3 HP/1750 RPM  
ROTAN SIZE 33 OR EQUAL

S-231  
STRAINER (FUTURE)  
1/8" SCREEN  
Lg/Hgt x Diameter  
Oper/Design Press  
Oper/Design Temp  
VIKING OR EQUAL

P-230  
PITCH TRANSFER PUMP (FUTURE)  
GEAR  
312 GPM/130 PSID  
50 HP/280 RPM  
ROTAN SIZE 152 OR EQUAL

T-210  
LIQUID PITCH  
STORAGE TANK (FUTURE)  
57' H x 79' O.D.  
DESIGN PRESS: 2" x 1/4" VG  
DESIGN TEMP: 475°F

A-218, A-219  
SIDE ENTERING AGITATOR  
SV/VEL TYPE  
40 HP/Speed  
PLENTY SV/VEL TYPE  
28P-STH-40 HP/85 mm SHAFT  
(FUTURE)

FOR APPROVAL

AUG 20 1998

**ChemTech**  
Consultants, Inc.  
Bridgeville, Pennsylvania 15017  
(412) 221-1300

DATE	BY	DATE	BY
STINEBAKER JUL 23 98	WLS	AUG 20 98	WLS
6526-D004	1202		

FOR APPROVAL

DATE	BY	DATE	BY

DATE	BY	DATE	BY

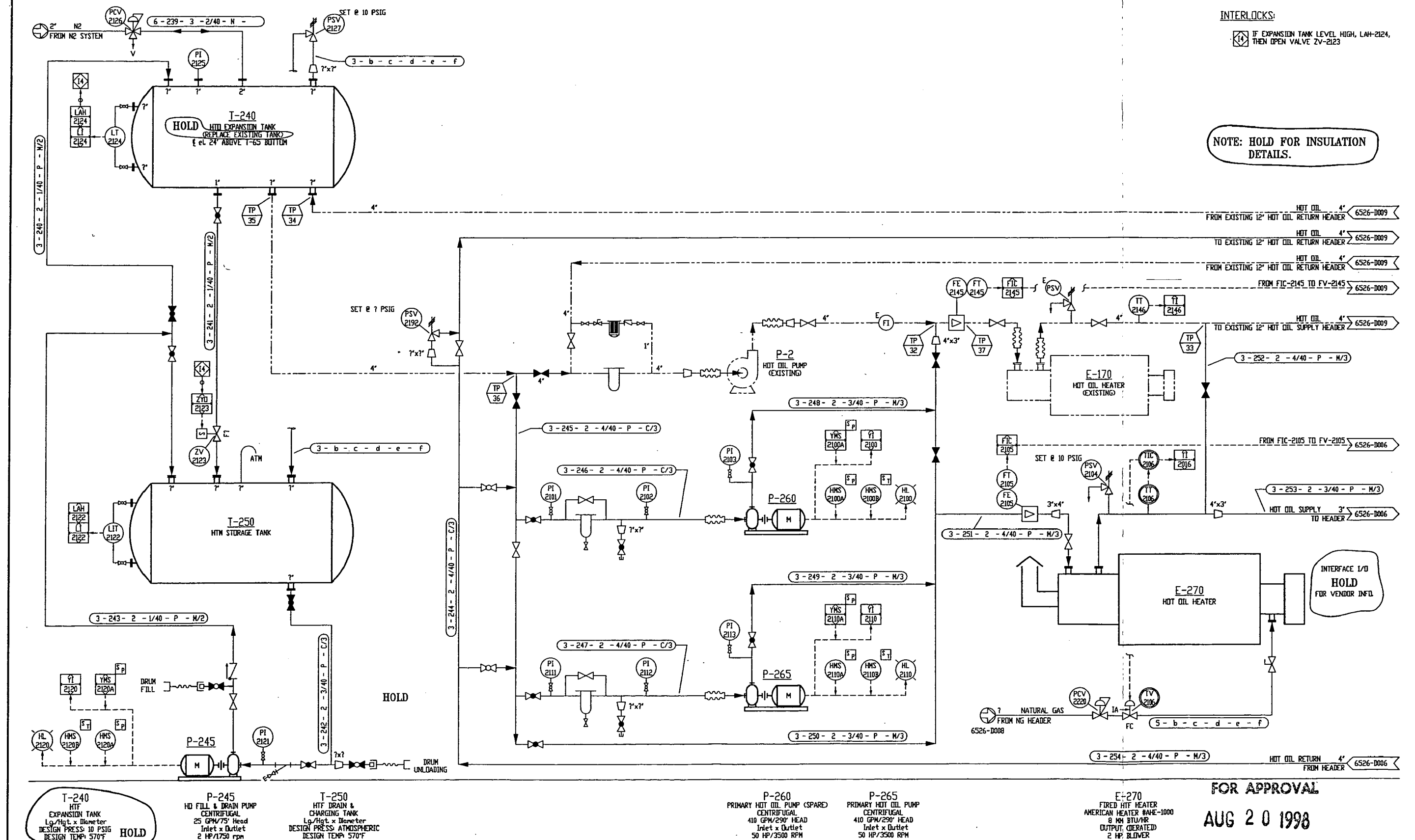
**KOPPERS INDUSTRIES**  
Pittsburgh, Pennsylvania 15229





PORTLAND TERMINAL  
LIQUID PITCH UNLOADING  
PITCH TANKS T-200 & T-210  
P & I DIAGRAM

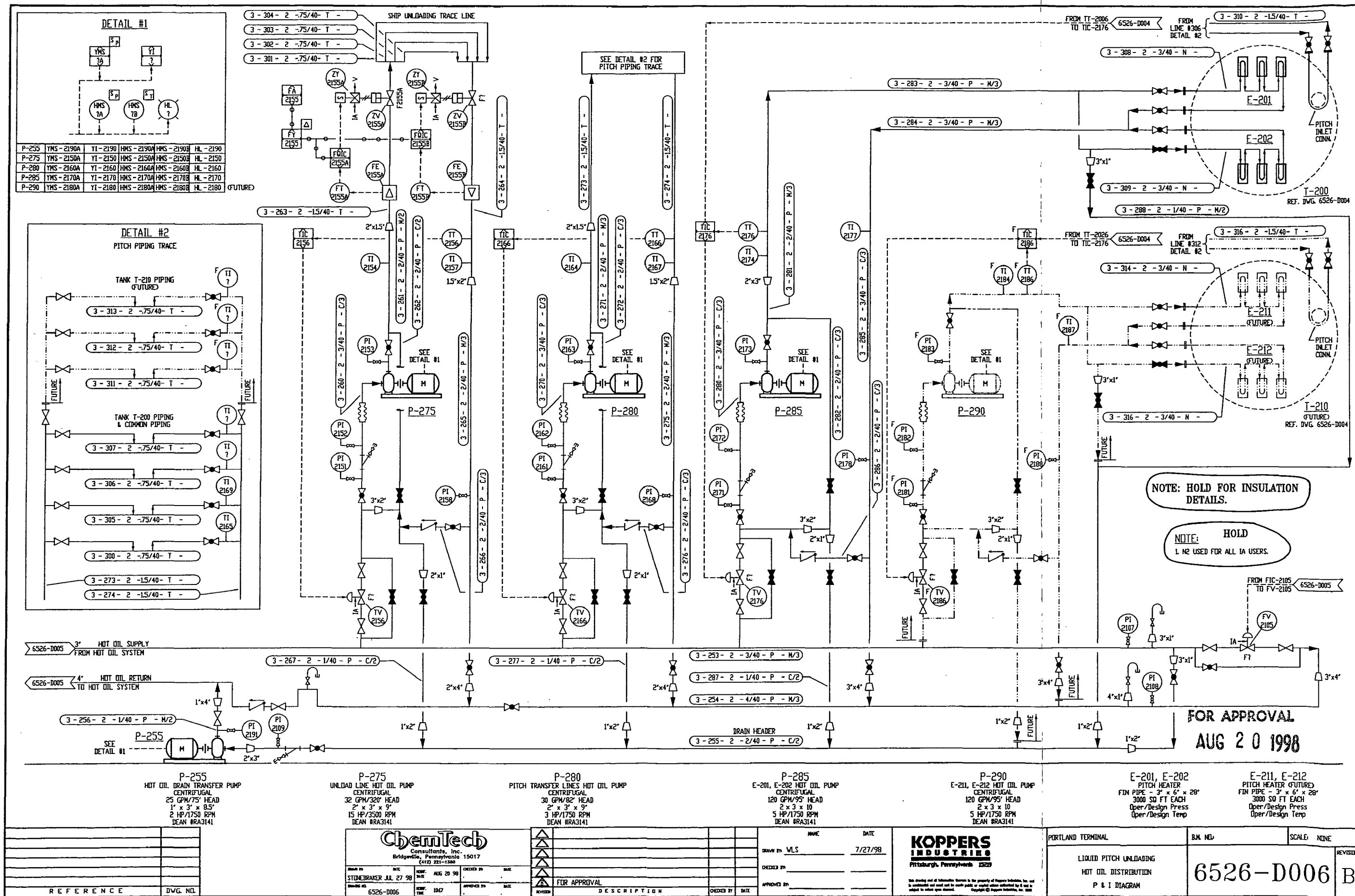
B.M. NO.  
SCALE: NONE  
REVISION  
**6526-D004** B

REFERENCE

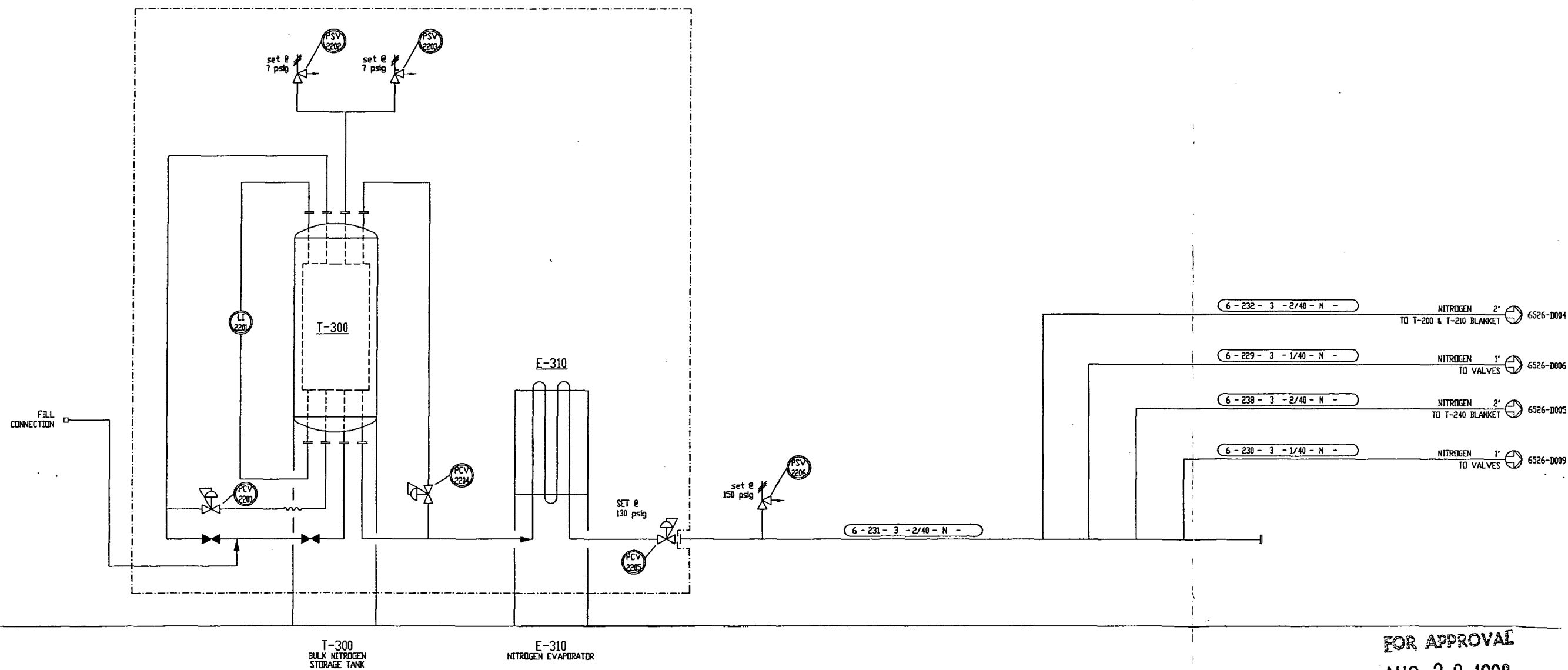
DWG. NCL



								NAME _____ DATE _____ DRAWN BY: SCG 7/24/98 CHECKED BY: _____ APPROVED BY: _____				PORTLAND TERMINAL		B.M. NO.		SCALE: NONE		REVISION	
		CONSULTANTS, INC. BRIDGEVILLE, PENNSYLVANIA 15017 (412) 231-1360								6526-D005 LIQUID PITCH UNLOADING HOT OIL SYSTEM P & I DIAGRAM		6526-D005		B					
REFERENCE		DWG. NO.		DESIGNED BY: SCG DATE: JUL 24 98 PERMIT DATE: AUG 20 98 CHECKED BY: _____ DATE: _____ APPROVED BY: _____ DATE: _____		FOR APPROVAL DESCRIPTION _____ CHECKED BY _____ DATE _____													







FOR APPROVAL  
AUG 20 1998

REFERENCE	DWG. NO.

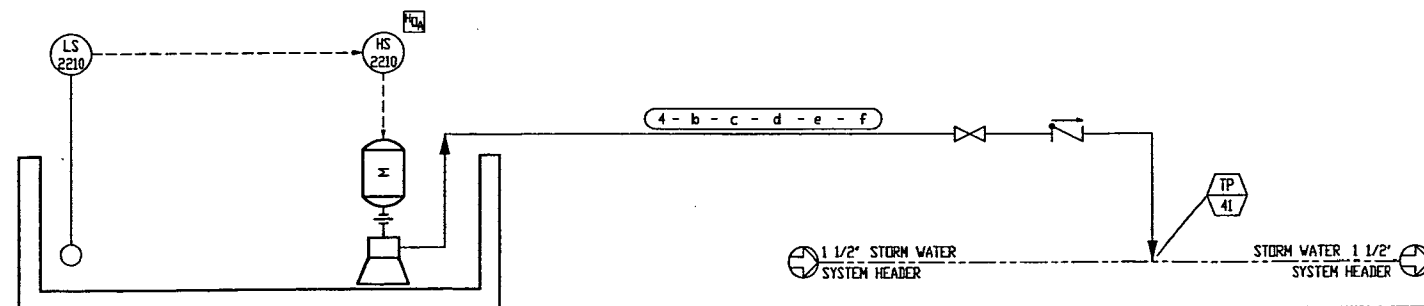
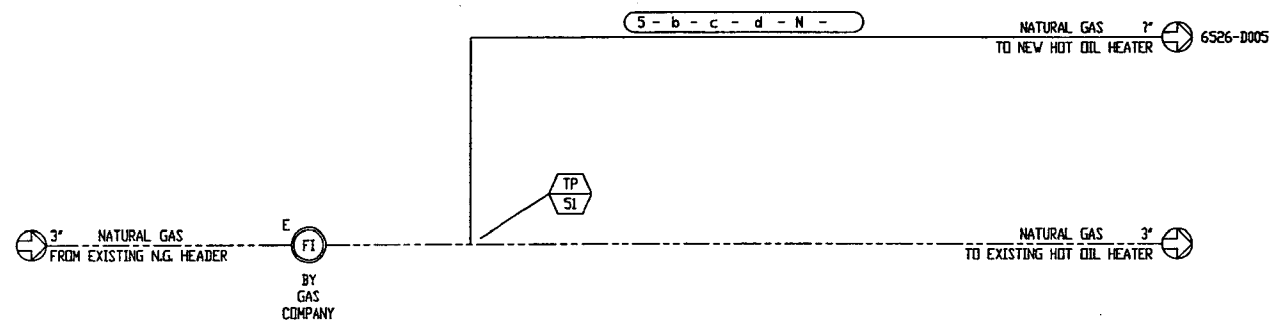
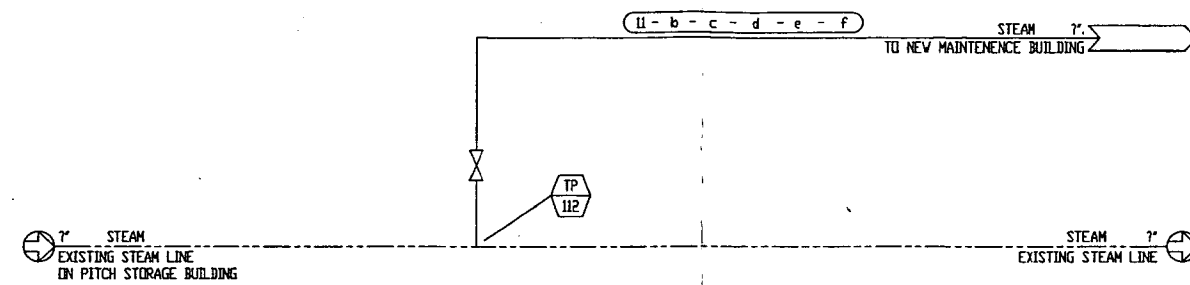
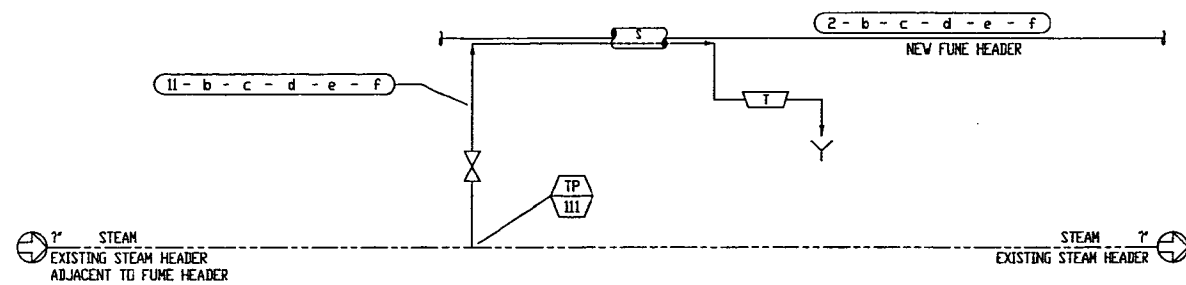
<b>ChemTech</b> Consultants, Inc. Bridgeville, Pennsylvania 15017 (412) 231-1368							
DRAWN BY HUGHES	DATE AUG 10 98	CHECKED BY HUGHES	DATE AUG 28 98	APPROVED BY	DATE	REVISION	DESCRIPTION
6526-D007			1005				

DATE 8/10/98	DATE
DRAWN BY HUGHES	
CHECKED BY	
APPROVED BY	

**KOPPERS INDUSTRIES**  
Pittsburgh, Pennsylvania 15209

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PORTLAND TERMINAL	B.M. NO.	SCALE: NONE	REVISION
LIQUID PITCH UNLOADING BULK NITROGEN SYSTEM P & I DIAGRAM		6526-D007	B



P-???  
SLUMP PUMP  
Type  
Flow Rate/Head  
Inlet x Outlet  
Power Rating/Speed  
REUSE  
EXISTING ?

FOR APPROVAL  
AUG 20 1998

REFERENCE	DWG. NO.

ChemTech			
Consultants, Inc.			
Bridgeville, Pennsylvania 15017			
(412) 221-1500			
DRAWN BY	DATE	REVIEW	DATE
HUGHES	AUG 10 98	AUG 20 98	
DESIGNED BY	DATE	APPROVED BY	DATE
6526-D008	09/03		

REVISION	DESCRIPTION	CHECKED BY	DATE

NAME	DATE
DRAWN BY: HUGHES	8/10/98
CHECKED BY:	
APPROVED BY:	

KOPPERS INDUSTRIES	
Pittsburgh, Pennsylvania 15219	
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PORTLAND TERMINAL	B.M. NO.	SCALE: NONE	REVISION
LIQUID PITCH UNLOADING MISCELLANEOUS UTILITIES P & I DIAGRAM	6526-D008	B	



October 15, 2001  
Booked Thru 09-01

# Koppers Industries Property Listing

Page: 1

Location: 09270 Portland

Sys No	Description	Acquired Date	Est Life	Acquired Value	Current Month Depr	Current YTD Depr	Current Accum Depr	Net Book Value	CER No.
6,030	PUMP PITCH TRANSFER #131966	01/01/89	10 00	1,847.00	0.00	0.00	1,847.00	0.00	111-58
6,062	ROPER TAR TRACK PUMP	12/01/94	10 00	3,595.00	31.89	286.97	2,383.37	1,211.63	160-169
6,068	BUILDING SERVICE	01/01/89	20 00	7,047.00	29.36	264.26	4,492.44	2,554.56	300-1
6,069	BUILDING OFFICE	01/01/89	20 00	15,894.00	66.23	596.03	10,132.43	5,761.57	300-1
6,070	PIPING AND INSULATION	01/01/89	10 00	53,029.00	0.00	0.00	53,029.00	0.00	300-1
6,071	INSULATE TANKS 20 & 65	01/01/89	10 00	26,827.00	0.00	0.00	26,827.00	0.00	
6,072	1974 ALLIS CHALMERS 840B LOADER	01/01/89	10 00	9,352.00	0.00	0.00	9,352.00	0.00	
6,077	TRACTOR BOOM FOR 910 LOADER	01/01/89	05 00	601.00	0.00	0.00	601.00	0.00	121-82
6,078	CAT 910 FRONT END LOADER	01/01/89	10 00	14,520.00	0.00	0.00	14,520.00	0.00	1771-5
7,030	STRUCTURE PITCH STORAGE FACILITY	01/01/89	20 00	108,882.00	453.68	4,083.08	69,412.28	39,469.72	1
7,031	PITCH STORAGE FACILITY	01/01/89	20 00	37,582.00	156.60	1,409.33	23,958.52	13,623.48	1670-1
7,073	CREOSOTE TANK CAR UNLOADING SYSTEM	05/01/89	10 00	38,720.00	0.00	0.00	38,720.00	0.00	9270-5
7,075	PORTABLE ARC WELDER	11/01/91	10 00	2,955.00	0.00	147.75	2,955.00	0.00	9270-7
7,076	MAKE UP WATER TANK	08/01/92	10 00	7,398.00	61.65	554.85	6,843.15	554.85	9270-8
7,077	8MM TAPE DRIVE FOR VAX COMPUTER	06/01/92	05 00	3,995.00	0.00	0.00	3,995.00	0.00	9270-9
7,078	MICRO MOTION METER FOR THE PITCH	08/01/92	10 00	10,375.00	86.46	778.13	9,596.89	778.11	9270-11
7,079	ISOLATION OF CUT BACK LINES FOR	08/01/92	10 00	12,307.00	102.56	923.03	11,383.99	923.01	9270-12
7,080	CONCRETE CONTAINMENTS	08/01/92	10 00	4,907.00	40.90	368.03	4,538.97	368.03	9270-15
7,081	PITCH MELTER	07/01/92	10 00	1,212,951.00	10,107.93	90,971.33	1,121,979.68	90,971.32	9270-10
7,082	FOUR FINN TUBE HOT OIL HEATERS	12/01/92	15 00	66,631.00	324.72	2,922.47	42,601.88	24,029.12	9270-13
7,083	INSULATE PITCH MELTER TANK	09/01/93	10 00	40,694.00	339.12	3,052.05	33,572.56	7,121.44	9270-14
7,084	PENCIL PITCH STORAGE BUILDING	09/01/93	15 00	371,238.00	2,062.43	18,561.90	204,180.89	167,057.11	9270-16
7,085	REBUILD/RESTORE OIL BURNING	07/01/93	10 00	6,046.00	50.38	453.45	4,987.94	1,058.06	9270-18
7,086	METTLER ROOF MODIFICATIONS	09/01/93	05 00	121,967.00	0.00	0.00	121,967.00	0.00	9270-21
7,087	INSTALL NEW ELECTRICAL EQUIPMENT	09/01/93	10 00	13,871.00	115.60	1,040.33	11,443.57	2,427.43	9270-23
7,088	REBUILD PLANT AIR COMPRESSOR	09/01/93	10 00	5,608.00	46.73	420.60	4,626.59	981.41	9270-25
7,089	LIGHTING	12/01/93	10 00	3,800.00	31.67	285.00	3,135.01	664.99	9270-33
7,090	STORM WATER COLLECTION SYSTEM	12/01/93	10 00	44,818.00	373.48	3,361.35	36,974.84	7,843.16	9270-20
7,091	PITCH MELTER ROOF TOP INSULATION	12/01/93	10 00	24,979.00	208.16	1,873.43	20,607.69	4,371.31	9270-24
7,092	MELTER CONVEYOR ZERO SPEED CONTROLS	12/01/93	10 00	3,110.00	25.92	233.25	2,565.76	544.24	9270-26
7,093	REPLACE ORIGINAL GATEWAY	12/01/93	10 00	5,485.00	45.71	411.38	4,525.14	959.86	9270-29
7,094	CONCRETE PAD AND SPILL CONTAINMENT	12/01/93	10 00	2,904.00	24.20	217.80	2,395.80	508.20	9270-30

Koppers001367

# Koppers Industries

## Property Listing

Location: 09270 Portland

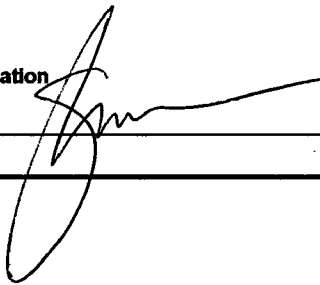
Sys No	Description	Acquired Date	Est Life	Acquired Value	Current Month Depr	Current YTD Depr	Current Accum Depr	Net Book Value	CER No.
7,095	BACKUP SAFETY EQUIPMENT	12/01/93	10 00	2,740.00	22.83	205.50	2,260.49	479.51	9270-31
7,096	INSTALL TWO METAL DOORS	12/01/93	10 00	3,858.00	32.15	289.35	3,182.85	675.15	9270-32
7,097	TRUCK LOADING LINE	09/01/94	10 00	30,129.00	251.08	2,259.68	21,843.53	8,285.47	9270-19
7,098	SUMP PUMP	09/01/94	10 00	4,297.00	35.81	322.28	3,115.34	1,181.66	9270-27
7,099	SAFETY & OSHA COMPLIANCE EQUIPMENT	07/01/94	10 00	6,233.00	51.95	467.48	4,518.92	1,714.08	9270-34
7,100	WIRE CRIMPING TOOL	07/01/94	10 00	2,639.00	22.00	197.93	1,913.27	725.73	9270-35
7,101	MELTER TEMPERATURE CONTROL VALVE	12/01/94	10 00	11,200.00	93.33	840.00	8,119.99	3,080.01	9270-36
7,102	MELTER AUDIO & VISUAL ALARM	12/01/94	10 00	4,250.00	35.42	318.75	3,081.26	1,168.74	9270-37
7,103	ASPHALT PAVING	05/01/95	10 00	23,005.00	191.71	1,725.38	14,378.14	8,626.86	9270-38
7,104	COMPUTER EQUIPMENT	06/01/95	05 00	3,759.00	0.00	0.00	3,759.00	0.00	9270-39
7,105	TRUCK CAPS	11/01/95	10 00	41,950.00	349.58	3,146.25	26,218.74	15,731.26	9270-40
7,106	821 CASE FRONT END LOADER	12/01/96	05 00	9,414.00	0.00	941.40	9,414.00	0.00	9270-44
7,107	STORM WATER DISCHARGE SYSTEM	07/01/98	10 00	47,825.00	398.55	3,586.88	15,543.12	32,281.88	9270-43
7,108	CASE 821 TRANSMISSION REBUILD	10/01/98	05 00	18,500.00	308.33	2,775.00	12,024.99	6,475.01	9270-45
7,109	FORD F150 PICKUP TRUCK	12/01/98	05 00	10,485.00	174.75	1,572.75	6,815.25	3,669.75	9270-48
8,570	Fume Recovery Modifications	10/01/99	10 00	55,819.00	465.16	4,186.43	12,559.28	43,259.72	9270-47
8,571	Loader, Engine Rebuild, Case	10/01/99	05 00	11,006.00	183.43	1,650.90	4,952.70	6,053.30	9270-49
8,713	Liquid Pitch Unloading Terminal	12/01/99	10 00	4,872,065.00	40,600.55	365,404.88	1,087,560.93	3,784,504.07	9270-46
8,714	Unloading Pump, Pitch Tank Car	12/01/99	10 00	7,688.00	64.07	576.60	1,729.80	5,958.20	9270-51
8,715	Forklift, Toyota	12/01/99	05 00	11,681.00	194.68	1,752.15	5,256.45	6,424.55	9270-52
8,716	Heat Transfer Oil	12/01/99	10 00	35,173.00	293.11	2,637.98	7,913.93	27,259.07	9270-53
8,775	Building Repair, Pencil Pitch Storage	03/01/00	20 00	9,891.00	41.21	370.91	618.19	9,272.81	9270-55
8,856	Pitch Tank T-68, Remove and Repair Insulation	06/01/00	10 00	17,400.00	145.00	1,305.00	2,175.00	15,225.00	9270-50
8,857	Pitch Tank T-65 and T-68, Radar Level Indicators	06/01/00	10 00	32,155.00	267.96	2,411.63	4,019.38	28,135.62	9270-54
8,974	Starter Switch, Heavy Oil Circulation Pumps	09/01/00	10 00	4,500.00	37.50	337.50	562.50	3,937.50	9270-56
9,171	Oil and Pitch Circulation System Spare Parts	12/01/00	10 00	12,944.00	107.87	970.80	1,618.00	11,326.00	9270-57
9,172	Sump Pump, Aurora Model 3x4x9B	12/01/00	10 00	8,344.00	69.53	625.80	1,043.00	7,301.00	9270-58
9,173	Boiler Feed Water Pump, Model 153K	09/01/00	10 00	3,241.00	27.01	243.08	405.13	2,835.87	9270-59

Location No. =

09270

7,586,126.00 59,249.95 534,338.09 3,176,755.57 4,409,370.43

Vendor Name Columbia Inspection

G/L	Detail	Subdetail	Location	Department	Tax	Emp No.	Move No./ PO No.	Amount	Inv No.	Date	
305	<b>807</b>		9270	925	0362			<b>\$102</b>	<b>55110902</b>	<b>11/9/2005</b>	
									Vendor Number		
									<b>014327008</b>		
									Net 30 days		
<b>Authorization</b> 				<b>Gross Amount</b>				<b>\$102.00</b>	<b>Terms</b>	<b>Due</b>	
				<b>Discount</b>					<b>Code</b>	<b>Date</b>	
				<b>Net</b>				<b>\$102.00</b>	<b>055</b>	<b>12/9/2005</b>	
								<b>Division</b> 483	<b>11</b>	<b>92705110011</b>	



# COLUMBIA INSPECTION, INC.

U.S Customs Approved Gaugers  
Petroleum and Environmental Laboratory  
Tank Calibrations

**INVOICE**

**Invoice Number:** 55110902

**Invoice Date:** 11/09/05

Page 1 of 1

071  
TO: T.J. Turner  
**Koppers Industries, Inc.**  
7540 NW St. Helens Road  
Portland, OR 97210-3663

**Received**  
11/09/05

**Client**  
Koppers Industries, Inc.

**Project**  
Stormwater Tanks  
**Work Order(s)**  
5110902

**Comments**

**Project Number**  
[none]

**PO Number**  
NA

Lab Track: 5511054

QUANTITY	ANALYSIS/DESCRIPTION	MATRIX	UNIT COST	EXTENDED COST
1	O & G, TOTAL (HEM) [1 day]	Water	\$102.00	\$102.00

**Invoice Total: \$102.00**

**ORIGINAL**

COLUMBIA INSPECTION, INC 7133 N. Lombard, Portland, OR 97203 Phone:(503) 286-9464 Fax:(503) 286-5355 E-mail:lab@ColumbiaInspection.

All work performed is subject to the terms and conditions of our current schedule of rates. Liability is limited to the amount of this invoice.

**Terms - Net 15 Days**

*Thank you for doing business with Columbia Inspection*

Please state invoice number and remit to:

**Columbia Inspection, Inc.**  
PO Box 83569, St. Johns Station  
Portland, OR 97283

Koppers001370



# CERTIFICATE OF ANALYSIS

CLIENT: Koppers Industries, Inc.  
ATTN: T.J. Turner  
7540 NW St. Helens Road  
Portland OR, 97210-3663

PROJECT NAME: Stormwater Tanks

PHONE: (503) 286-3681  
FAX: (503) 285-2831

SUBMITTED: 11/09/05 08:34

REPORT DATE: 11/09/05 15:49

REPORT NUMBER: 5110902

PAGE: 1 OF 1

CI SAMPLE	CLIENTS ID#	DATE	TIME	MATRIX
5110902-01	Stormwater Tanks	11/08/2005	1100	Water

SAMPLE/ ANALYSIS	METHOD	PARAMETER	RESULTS	UNITS	DETECTION LIMIT	TECH	DATE/TIME
5110902-01	SAMPLE ID: Stormwater Tanks						
General Bench Analysis							
O & G, TOTAL (HEM) EPA 1664		TOTAL OIL AND GREASE	ND	mg/L	2.0	JRW	11/09/2005 15:29

COPY

This report may not be reproduced except in full.

Authorized for Release By:

David J. Melander For Richard D. Reid - Laborator

COLUMBIA INSPECTION, INC 7133 N. Lombard, Portland, OR 97203 Phone:(503) 286-9464 Fax:(503) 286-5355 E-mail:lab@ColumbiaInspection.com

Koppers001371





Koppers Industries, Inc.

## CAPITAL EXPENDITURE REQUEST

										Request No.	9270-		
Division	TAR				Location	N.W. PLANT				Request Date	1 / 11 / 93		
Request Initiated By		JOHN A OXFORD				Approved By							
Title		STORM WATER COLLECTION SYSTEM FOR NEW PITCH SHED											
Amount of Request	\$ 48,000.00		Depreciation Life	YRS	Estimated Life	YRS	Approval Date	MO.	19		YEAR	93	
Class of Expenditure	See Reverse	A	1	1	Depreciation Acct. No.								
Specification & Description: INSTALL 4'X4'X6' CATCH BASIN. INSTALL 6" 8" & 10" PVC PIPE TO CATCH AND GUIDE STORMWATER INTO THE CATCH BASIN. INSTALL A 514' OF 4" A.B.S. PIPE FASTENED TO ANGLE IRON AND HUNG ON PITCH SHEDS AND PIPE STANTIONS ALL THE WAY TO COLLECTION SUMP IN LOWER TANK FARM.													
Summary of Justification: CITY OF PORTLAND, OR HAS ISSUED NEW REGULATIONS GOVERNING THE DISPOSITION OF STORMWATER OFF OF BUILDINGS. THE NEW PITCH SHED REQUIRES THIS SPECIAL HANDLING FOR THE COLLECTION OF THE STORM WATER AND ITS CONTAINMENT AT THE SUMP BEFORE TESTING AND PUMPING TO THE WILLAMETTE RIVER, UNDER THE TERMS OF OUR N.P.D.E.S. PERMIT.													
ENGINEERING: By <u>ED BENNETT</u> Approval _____ COSTS: Cash Expenditure (1) <u>48,000.00</u> Trade-In or Salvage (2) _____													
ESTIMATE: By <u>J.A. OXFORD</u> Approval _____ Amt. of Requests(1) + (3) <u>48,000.00</u>													
Type of Investment	Building	%	Equipment	%	Land	%	Type of Equipment	New	Used	Age	For Use On	Owned Property	Leased Property
EARNINGS OR COST: Division Income Before Interest & Taxes _____ ( 5 Yrs. Average) % Return On Net Investment _____ Added Working Capital Required If Any _____													
RETIREMENTS: Total Original Value _____ (PDA) Attached Years Acquired _____ Total Book Value _____							CONSTRUCTION BY: Est. Schedule of Expense <u>1ST QTR</u> Est. Start - Up Date <u>1-12-93</u> Est. Close to Property _____ Referral to Insurance _____						
APPROVAL: Production Manager _____ DATE _____ Capital Planning _____ DATE _____ Environmental & Safety _____ DATE _____ Engineering _____ DATE _____ Division Controller _____ DATE _____ Group Controller _____ DATE _____ Other _____ DATE _____													

**KOPPERS**

## CAPITAL EXPENDITURE REQUEST

Koppers Industries, Inc.

										Request No.	270-			
Division		Tar			Location			N.W. Plant		Request Date	1/11/93			
Request Initiated By		J. O. Ford			Approved By									
Title												Storm Water Collection System for New Pitch Shed		
Amount of Request		\$ 48,000.00		Depreciation Life		Y R S		Estimated Life		Y R S		Approval Date	MO. 19 93	
Class of Expenditure		See Reverse		A 1 1 1		Depreciation Acct. No.								
Specification & Description:														
Install 4'x4'x6' catch Basin. Install 6" 8" & 10" PVC pipe to catch and guide stormwater into the catch Basin. Install 5' 14" ft of 4" ABS Pipe fastened to angle iron and hung on pitch sheds and pipe hangers all the way to the collection sump in lower tank farm.														
Summary of Justification:														
City of Portland Or. has issued new regulations governing the disposition of stormwater off of buildings. The new pitch shed requires this special handling for the collection of the stormwater and its containment at the sump before testing and pumping to the Willamette River.														
ENGINEERING: By E. Bennett Approval COSTS: Cash Expenditure (1) 48,000.00														
* Under the terms of our NPDES Permit Trade-In or Salvage (2) -														
ESTIMATE: By J. O. Ford Approval Amt. of Requests (1) + (3) 48,000.00														
Type of Investment	Building	%	Equipment	%	Land	%	Type of Equipment	New	Used	Age	For Use On	Owned Property	Leased Property	
EARNINGS OR COST:														
(5 Yrs. Average)				Division Income Before Interest & Taxes										
				% Return On Net Investment										
				Added Working Capital Required If Any										
RETIREMENTS: Total Original Value														
(PDA) Attached Years Acquired														
Total Book Value														
CONSTRUCTION BY: Est. Schedule of Expense 1/1/93														
Est. Start - Up Date 1-12-93														
Est. Close to Property														
Referral to Insurance														
APPROVAL:														
Production Manager														
Capital Planning														
Environmental & Safety														
Engineering														
Division Controller														
Group Controller														
Other														

**CLASSIFICATION OF APPROPRIATION REQUESTS**  
**AND CAPITAL EXPENDITURES**

Each capital item shall be classified according to the following codes. This does not preclude the use of more than one classification code for a single request.

- A - 1 - 0      Non-Revenue producing additions such as service facilities, fire protection equipment, laboratories, etc.
- A - 1 - 1      Non-Revenue producing additions for pollution, effluent and OSHA facilities.
- A - 1 - 2      Non-Revenue producing additions for energy conservation items.
- A - 2 - 0      Additions for increased savings and profit.
- A - 2 - 2      Additions for energy conservations items resulting in increased savings and profit.
- A - 2 - 3      Additions for energy conservations items resulting in increased savings and profits and also resulting in a 20% Investment Tax Credit.
- A - 3 - 0      Investments such as the whole or partial purchase of a going business, existing plants, processes of others, joint venture, and foreign investments.
- R - 1 - 0      Replacement of items which can be identified on the property records and which will eventually be retired from the property account.
- R - 1 - 1      Replacement of pollution, effluent and OSHA related items which can be identified on the property records and which will eventually be retired from the property account.
- R - 1 - 2      Replacement of energy conservation items which can be identified on the property records and which will eventually be retired from the property account.
- R - 2 - 0      Major repair to all items except pollution, effluent, OSHA, and energy conservation items. Also shall include replacement of items which cannot be specifically identified on the property records.
- R - 2 - 1      Major repairs to pollution, effluent and OSHA items.
- R - 2 - 2      Major repairs to energy conservation items.

**KOPPERS**

Koppers Industries, Inc.

**CAPITAL EXPENDITURE REQUEST**

						Request No.		9270-20					
Division		TAR		Location		N.W. PLANT		Request Date					
								1 / 11 / 93					
Request Initiated By		JOHN A. OXFORD				Approved By		<i>James S. Schan</i>					
Title		STORM WATER COLLECTION SYSTEM FOR NEW PITCH SHED											
Amount of Request		\$ 48,000.00		Depreciation Life		10 YRS		Estimated Life					
						10 YRS		Approval Date					
								MO. 19 YEAR 93					
Class of Expenditure		See Reverse		Depreciation Acct. No.		305		969					
						X		9270 910					
<p><b>Specification &amp; Description:</b> INSTALL 4'X4'X6' CATCH BASIN. INSTALL 6" 8" &amp; 10" PVC PIPE TO CATCH AND GUIDE STORMWATER INTO THE CATCH BASIN. INSTALL A 514' OF 4" A.B.S. PIPE FASTENED TO ANGLE IRON AND HUNG ON PITCH SHEDS AND PIPE STANTIONS ALL THE WAY TO COLLECTION SUMP IN LOWER TANK FARM.</p>													
<p><b>Summary of Justification:</b> CITY OF PORTLAND, OR HAS ISSUED NEW REGULATIONS GOVERNING THE DISPOSITION OF STORMWATER OFF OF BUILDINGS. THE NEW PITCH SHED REQUIRES THIS SPECIAL HANDLING FOR THE COLLECTION OF THE STORM WATER AND ITS CONTAINMENT AT THE SUMP BEFORE TESTING AND PUMPING TO THE WILLAMETTE RIVER, UNDER THE TERMS OF OUR N.P.D.E.S. PERMIT.</p>													
<p><b>ENGINEERING:</b> By <u>ED BENNETT</u> Approval _____ <b>COSTS:</b> Cash Expenditure (1) <u>48,000.00</u></p> <p>Trade-In or Salvage (2) _____</p> <p><b>ESTIMATE:</b> By <u>J.A. OXFORD</u> Approval _____ Amt. of Requests(1) + (3) <u>48,000.00</u></p>													
Type of Investment	Building	%	Equipment	%	Land	%	Type of Equipment	New	Used	Age	For Use On	Owned Property	Leased Property
<p><b>EARNINGS OR COST:</b> (5 Yrs. Average)</p> <p>Division Income Before Interest &amp; Taxes _____</p> <p>% Return On Net Investment _____</p> <p>Added Working Capital Required If Any _____</p>													
<p><b>RETIREMENTS:</b> Total Original Value _____</p> <p>(PDA) Attached Years Acquired _____</p> <p>Total Book Value _____</p>							<p><b>CONSTRUCTION BY:</b> Est. Schedule of Expense <u>ST QTR</u></p> <p>Est. Start - Up Date <u>1-12-93</u></p> <p>Est. Close to Property _____</p> <p>Referral to Insurance _____</p>						
<p><b>APPROVAL:</b> Production Manager _____ DATE _____</p> <p><b>RECEIVED</b> Capital Planning _____ DATE _____</p> <p>Environmental &amp; Safety _____ DATE _____</p> <p>Engineering _____ DATE _____</p> <p><b>KOPPERS INDS. INC.</b> Division Controller _____ DATE _____</p> <p><b>PORTLAND, OR</b> Group Controller _____ DATE _____</p> <p>Other _____ DATE _____</p>													

**KOPPERS  
INDUSTRIES****CAPITAL EXPENDITURE REQUEST**

CER NO.

9270 - C1

Included in Capital Program

NO

Date: 1/15/02

Division: Carbon Materials &amp; Chemicals

Estimated Completion Date: 10/15/02

Plant Location No./ Name: 9270 Portland, Oregon

CLASS (choose one)

Maintenance Acquisition Environmental Productivity  
X

RISK (choose one)

Low Medium High  
XRequested By  
A. S. Kameron

Approved By

Date

9/4/02

Amount of Request  
\$10,000.00

Description of Proposed Asset (attach additional pages if necessary)

This request is to cover the installation of a new sump and sump pump in the tank farm, near tank T-34. Over the years, there has been a gradual rise in the water table in this area, plus, the tanks have settled and then when combined with an old and failing French drain system that no longer works properly in taking the rain water to the main tank farm sump, our tanks in the tank farm are sitting in water on average, 10 months of the year. We plan to install a new 42" diameter galvanized sump and sump pump, PVC piping to the main sump and the electrical material's necessary to operate the system.

Summary of Justification (attach additional pages)

Why do this project, at all? This was a Stewardship issue item from the April 2001 Third Party Audit and it was felt that this matter needed to be address, as soon as possible. If these tanks continue to sit in water for 10 months a year, the rusting will only get worse, to the point that we could experience a breach and could have a major spill, depending on which tank would breach.

Why do this project, this way? We plan to do all of the physical labor work on this project, ourselves. Only the electrical work will be sub-contracted, thus, saving additional of expenses.

Why do this project, now? Each year that these tanks are sitting in water will speed up the rusting process and expose KII to a possible spill. As is, we will not be able to do this work until late Summer/early Fall, because of the standing water in the tank farm until that time of the year. It's so wet down there that you have to wait for it to dry out, even then it will be a muddy mess.

Financial Justification (complete attached schedules for requests greater than \$125,000)

Return on Capital Employed \_\_\_\_\_  
Payback \_\_\_\_\_**Authorization**DIVISIONAL LEVEL  
REVIEWED BY *[Signature]*  
(GM/Operations Manager)

DATE

9/4/02

CONTROLLER  
REVIEWED BY *[Signature]*

DATE

9/5/02

ENGINEERING  
REVIEWED BY \_\_\_\_\_

DATE \_\_\_\_\_

PURCHASING  
REVIEWED BY \_\_\_\_\_

DATE \_\_\_\_\_

OTHER

REVIEWED BY \_\_\_\_\_

DATE \_\_\_\_\_

CHIEF FINANCIAL OFFICER  
(if request is greater than \$50,000)  
REVIEWED BY \_\_\_\_\_ DATE \_\_\_\_\_CHIEF EXECUTIVE OFFICER  
(if request is greater than \$125,000, but less than  
\$1,000,000)  
REVIEWED BY \_\_\_\_\_ DATE \_\_\_\_\_TREASURY DEPARTMENT  
(if request is greater than \$125,000)  
REVIEWED BY \_\_\_\_\_ DATE \_\_\_\_\_CORPORATE SECRETARY (BOD APPROVAL)  
(if request is in program and greater than \$1,000,000 or  
Not in the program and greater than \$500,000)  
REVIEWED BY \_\_\_\_\_ DATE \_\_\_\_\_**RECEIVED**

SEP 12 2002

KOPPERS INDS, INC.  
PORTLAND OR  
Koppers001376

**REQUEST FOR SPECIAL TERMS**

Vendor Code (if assigned):

015831018

Vendor Name:

PERFORMANCE PUMP Co., Inc.

"Remit to" Address

10728 SE. Highway 212CLALLAMAS, OR.97015-9144

Terms Required

NET 15 DAYS

Invoices normally &gt;\$3500 each? Yes



No



Reason for Special Terms:

Normally this vendor is paid via  
Purchase card, however, due to an emergency situation  
we now have an invoice totaling \$4,112.99. This  
should be a one time situation.

Plant Manager Approval

A. Skamene

Operations Manager Approval

Attach copy of sample invoice

Mail to: Koppers Industries Inc., Attn: Terry Lippert  
K-1750 Koppers Building  
436 Seventh Avenue  
Pittsburgh, PA 156219-1800

Or

FAX to: 412-227-2159  
Attn: Terry Lippert  
K-1750 Koppers Building

2 PAGES

**PERFORMANCE PUMP CO. INC.**

10728 SE HIGHWAY 212  
 CLACKAMAS, OR 97015-9144  
 TEL: 503/657-1938  
 FAX: 503/657-3352

**INVOICE**

Date	Invoice #
7/24/2002	17394

**Bill To**

Koppers Company  
 7540 N.W. St. Helens Road  
 Portland OR 97210

**Ship To**

Koppers Company  
 7540 N.W. St. Helens Road  
 Portland OR 97210

P.O. No.	Reference	Terms	Due Date	Ship Date	Ship Method	
TJ VERBAL	GOULDS FLUME PUMP	Net 15	8/8/2002	7/24/2002	RF DELIVERY	
Quantity	Description				Unit Price	Amount
5.5	LABOR HOURS FOR REPAIR OF GOULDS 3196 ST (FLUME PUMP) SIZE 1 X 1-1/2-8				65.00	357.50
3	JOHN CRANE MECHANICAL SEAL SIZE 1-3/8" (ONE FOR THIS REPAIR, ONE FOR BACKUP, AND ONE FOR REPAIR ORDER TO FOLLOW)				1,020.23	3,060.69
3	REPLACEMENT BEARINGS, GASKETS, O-RINGS, DEFLECTORS AND OIL SEALS (ONE EACH FOR THIS REPAIR, WITH TWO ADDITIONAL REQUESTED FOR REPAIR ORDER TO FOLLOW AND A SPARE)				205.00	615.00
1	FREIGHT				79.80	79.80
RECEIVED						

JUL 26 2002

KOPPERS INDS, INC.  
 PORTLAND OR

**Total** \$4,112.99

**Payments/Credits** \$0.00

**Balance Due** \$4,112.99

Thank you for your continued confidence in our products and services. It is a privilege for us to be of service to you.  
 A Service Charge of 1.5% per month will be added to all past due accounts.

PORTLAND (PEHM.)  
BLUE PRINT

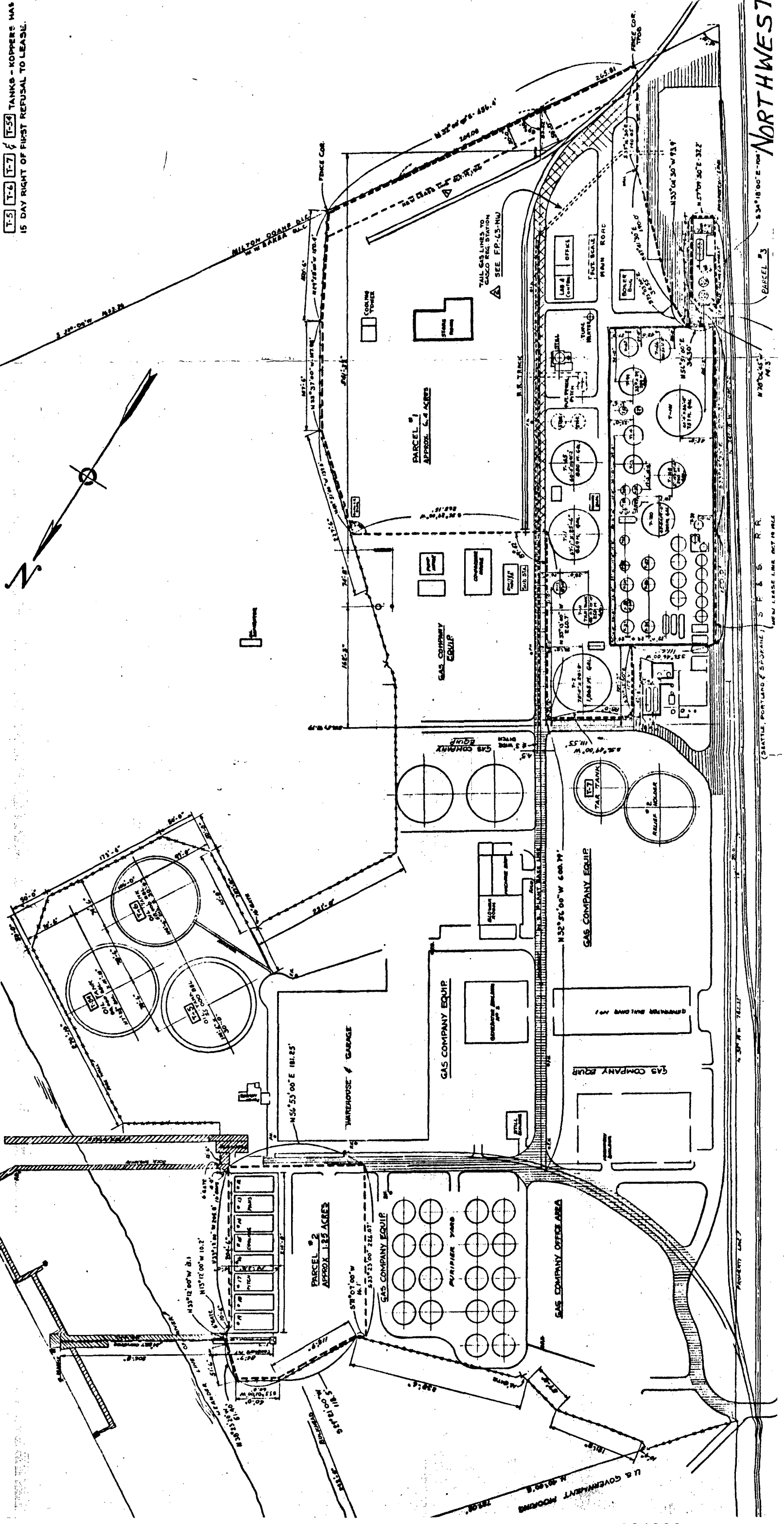


L-7238

KILLAMITE RIVER

ELLIOTT TRACT

- LEGEND
- OUTLINES LEASE PARCELS
  - [Hatched Box] DESIGNATES USE IN COMMON WITH GASCO AND OTHERS FOR PURPOSE OF EGRESS AND EGRESS (SECTION 3) GREEN
  - [Hatched Box] DESIGNATES DOCK FACILITIES USE IN COMMON WITH GASCO AND OTHERS (SECTION 4) BLUE
  - [Hatched Box] DESIGNATES KOPPERS EXCLUSIVE USE OF SOLIDS, LOAD AND UNLOAD EQUIPMENT, (SECTION 5) PURPLE
  - [Hatched Box] DESIGNATES ROADWAYS GASCO AND KOPPERS COMMON USE
  - [Hatched Box] DESIGNATES RIGHT OF USE RESERVED BY GASCO IN PARCEL FOR VEHICULAR TRAFFIC, UTILITY LINES AND FIRE LINES (SECTION 6)
  - [T-5] [T-6] [T-7] [T-59] TANKS - KOPPERS HAS 15 DAY RIGHT OF FIRST REFUSAL TO LEASE.



NORTHWEST

**J. CAMERON McKERNAN COMPANY**  
**Engineering & Naval Architecture**

2303 North Randolph Avenue • Portland, Oregon 97227 • (503) 232-7211 • FAX (503) 232-7658

**COPY**

File No. P03-04  
April 3, 2003

Phil Ralston  
Hahn & Associates Inc.  
434 NW 6<sup>th</sup> Avenue, Suite 203  
Portland, Oregon 97209

Subject: Koppers Industries, Inc. - Portland, Oregon Terminal  
SPCC PLAN

Enclosures: "Site Plan" dated February 2003

"Storm Water Drainage & Containments" dated April 2003

Dear Mr. Ralston,

Enclosed are the plans we prepared for the Koppers Industries Portland Terminal  
for their SPCC Plan.

Very truly yours,

J. CAMERON McKERNAN COMPANY

*Mary-Anne J McKernan*

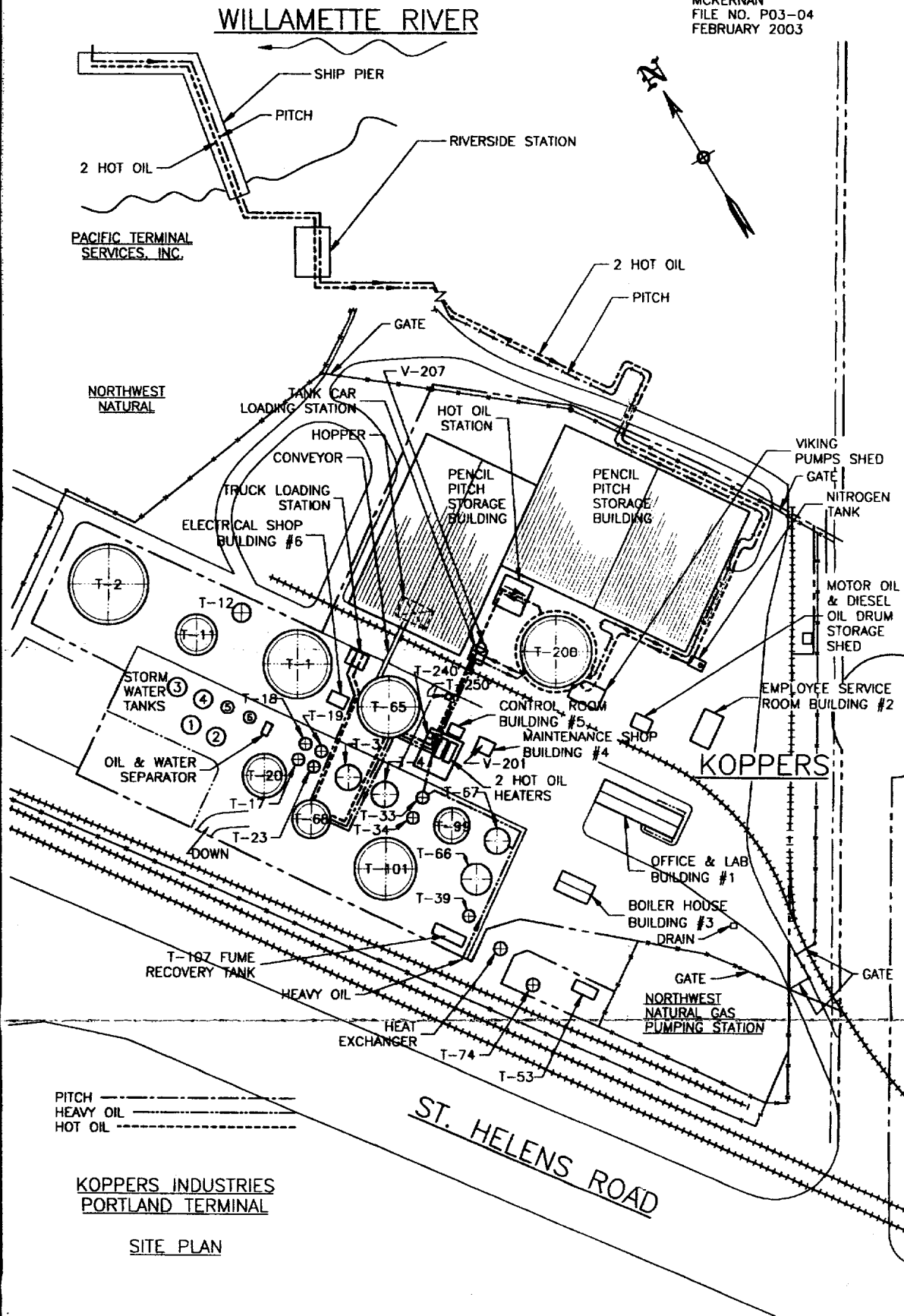
By:

For:

J. Cameron McKernan, President

cc: Koppers Industries (Amos Kameron)

MCKERNAN  
FILE NO. P03-04  
FEBRUARY 2003

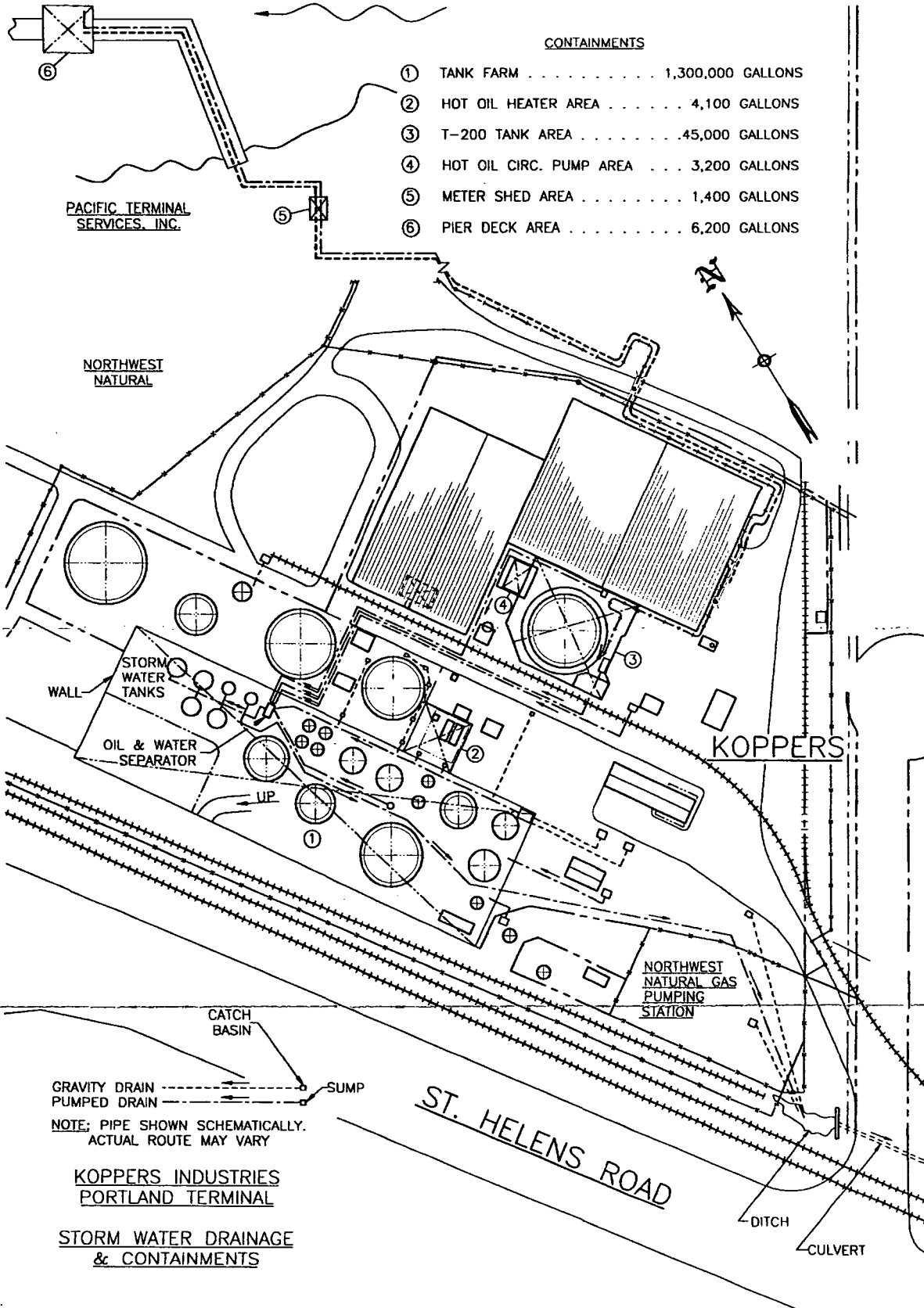


# WILLAMETTE RIVER

MCKERNAN  
FILE NO. P03-04  
APRIL 2003

## CONTAINMENTS

- ① TANK FARM . . . . . 1,300,000 GALLONS
- ② HOT OIL HEATER AREA . . . . . 4,100 GALLONS
- ③ T-200 TANK AREA . . . . . 45,000 GALLONS
- ④ HOT OIL CIRC. PUMP AREA . . . . . 3,200 GALLONS
- ⑤ METER SHED AREA . . . . . 1,400 GALLONS
- ⑥ PIER DECK AREA . . . . . 6,200 GALLONS



GRAVITY DRAIN  
PUMPED DRAIN

NOTE: PIPE SHOWN SCHEMATICALLY.  
ACTUAL ROUTE MAY VARY

KOPPERS INDUSTRIES  
PORTLAND TERMINAL

STORM WATER DRAINAGE  
& CONTAINMENTS

**J. CAMERON McKERNAN COMPANY**  
Engineering & Naval Architecture

2303 North Randolph Avenue • Portland, Oregon 97227 • (503) 232-7211 • FAX (503) 232-7658

**COPY**

File No. P03-04  
March 6, 2003

Phil Ralston  
Hahn & Associates Inc.  
434 NW 6<sup>th</sup> Avenue, Suite 203  
Portland, Oregon 97209

Subject: Koppers Industries, Inc. - Portland, Oregon Facility  
SPCC PLAN


Enclosure: "Site Plan" - 2 copies

Dear Mr. Ralston,

We send two copies of the Site Plan we prepared for the Koppers Industries  
Portland Terminal for their SPCC Plan.

Very truly yours,

J. CAMERON McKERNAN COMPANY

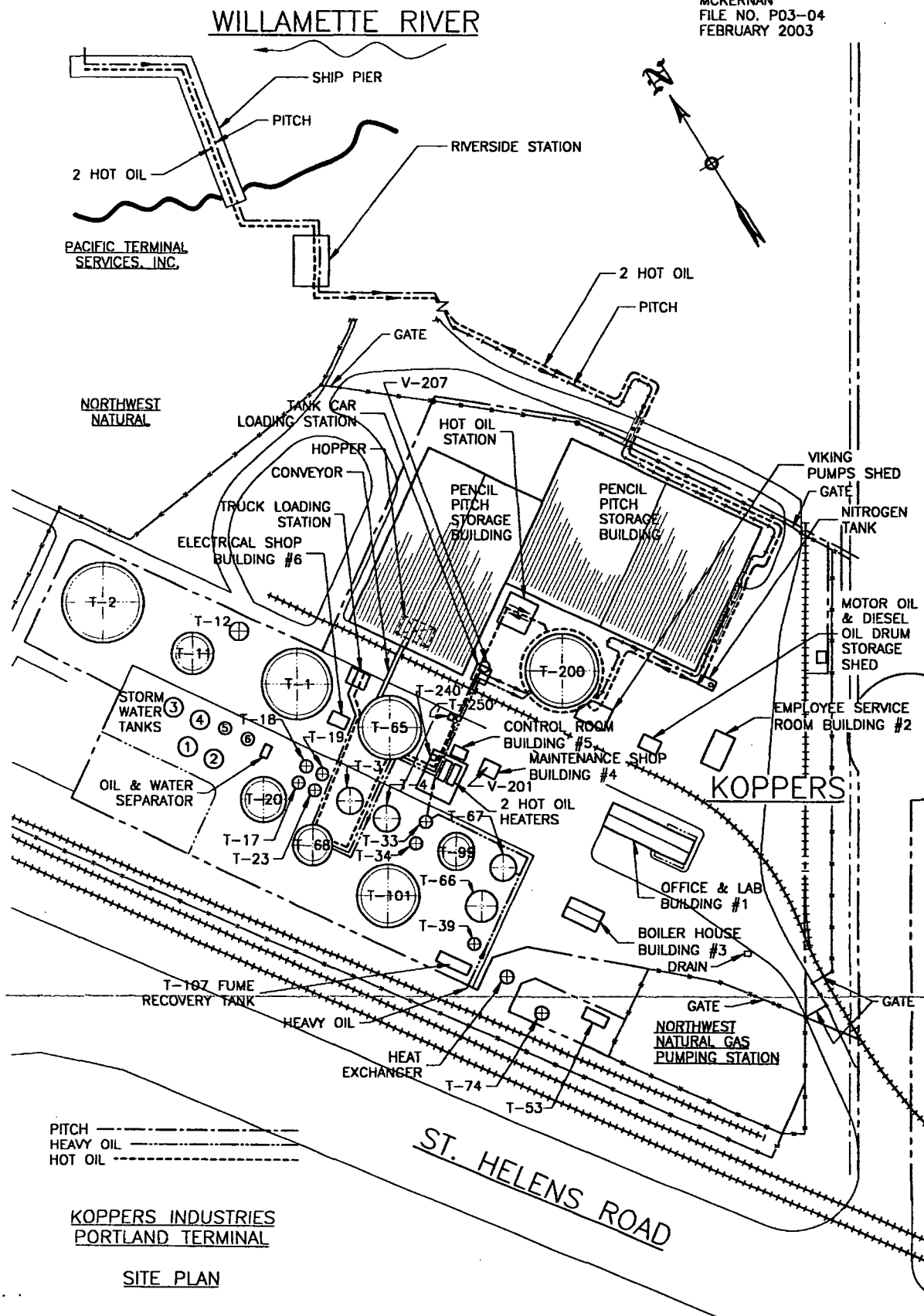
By:   
J. Cameron McKernan

cc: Koppers Industries (Amos Kameron) w/one copy of Site Plan

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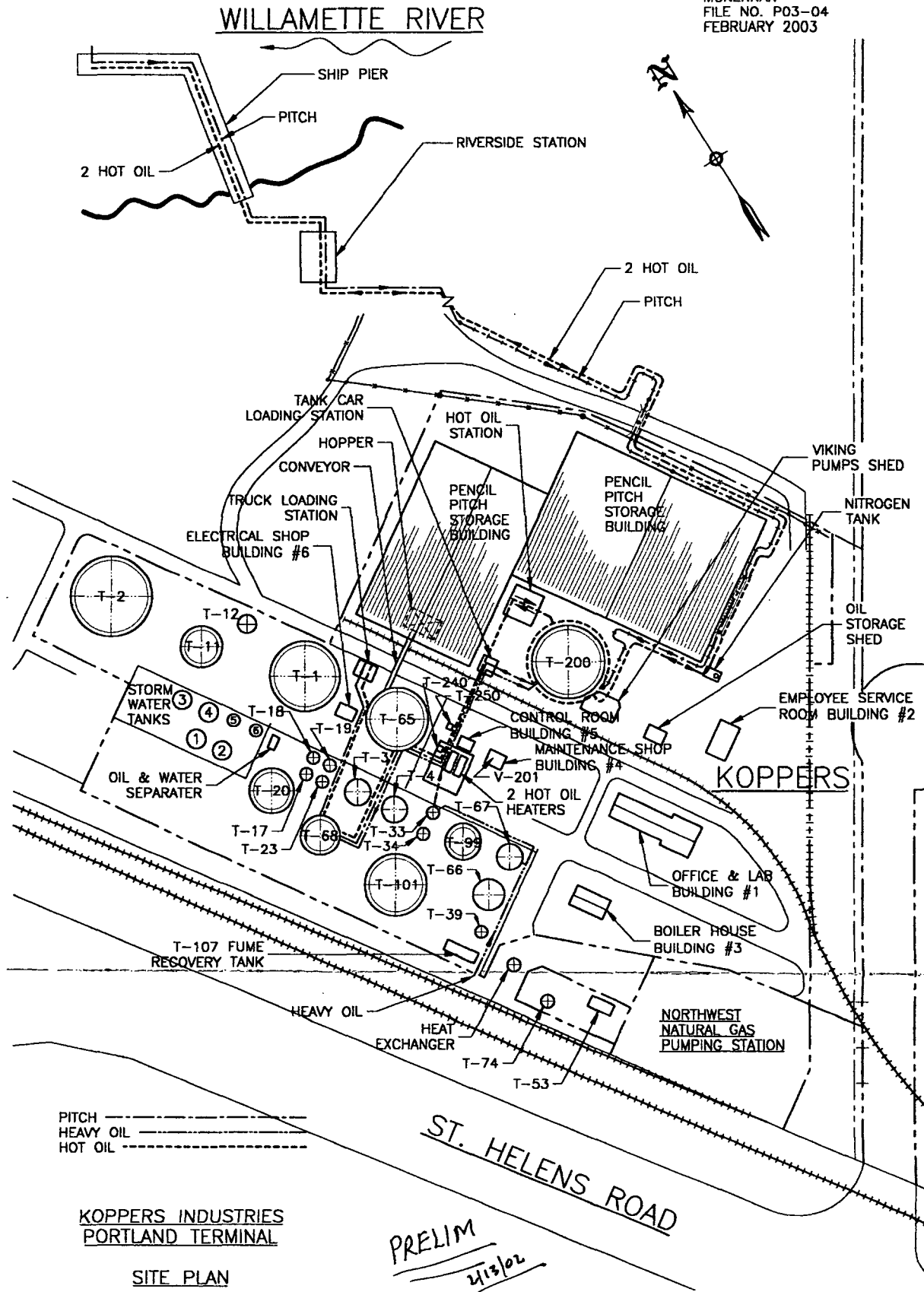
Koppers001384

MCKERNAN  
FILE NO. P03-04  
FEBRUARY 2003



Koppers001385

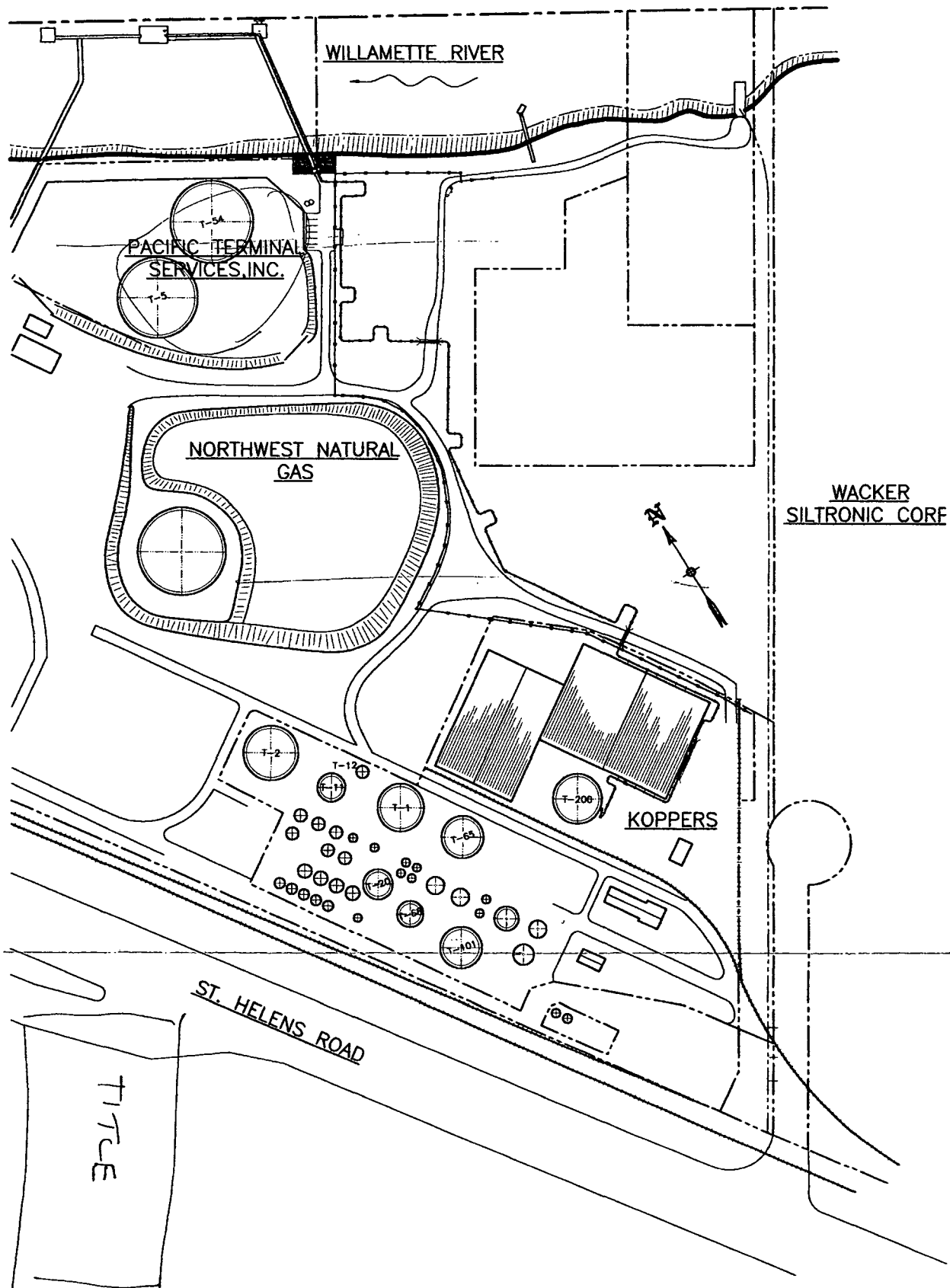
MCKERNAN  
FILE NO. P03-04  
FEBRUARY 2003



KOPPERS INDUSTRIES  
PORTLAND TERMINAL

SITE PLAN

Koppers001386







**Amos S. Kamerer**  
Plant Manager

Koppers Industries, Inc.  
7540 N.W. St. Helens Road  
Portland, OR 97210-3663

Telephone: 503-286-3681  
Fax: 503-285-2831

Mr. George Markwood  
V. P. Operations  
Pacific Northern Industries, Inc.  
100 West Harrison  
Suite #420, North Tower  
Seattle, Washington 98119

December 11, 1998

Reference: Modifications of the existing pier, for the Koppers Industries  
Liquid Pitch Unloading Pipeline Project.

Dear George,

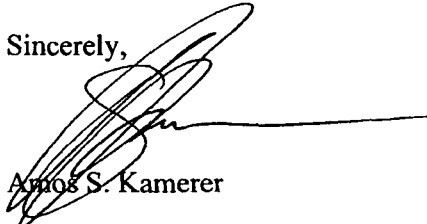
I just wanted to thank you for getting back to me, now that you have completed your review of our specifications and the drawings of the modifications that we are planning for the pier. And, needless to say, I was happy to hear that you didn't see any thing that concerned you.

As we discussed, the important issue will be the scheduling of the actual work, so that any interruptions to your operations are kept to a minimum. In that vein, I thought that I would take this opportunity to give you my estimate of the timing for the various work that will be done at the pier and related area.

The access road work, to our new bridge, should be done in the next couple of weeks, weather permitting. The 5 new piles that are required, will be driven sometime between now and the end of January. The new access bridge from the shore to the East dolphin; and the new pipe support and walkway from the East dolphin to the center platform work, will be done some time in February. Then the actual pipeline construction, from the pier to our new tank, should get started some time in March. As these dates become clearer, I will coordinate every thing through Tina.

And speaking of Tina, I want you to know that she and Mike have been very helpful and cooperative to me, and the many contractors, engineers, etc. that have come to look at the site. I certainly appreciate their under standing during this whole process.

Thank you again, and I look forward to seeing you on your next visit to Portland.

Sincerely,  
  
Amos S. Kamerer

CC: Tina Garrett, Pacific Northern Industries  
Sandra K. Hart, Northwest Natural

BCC: K. J. Fitzgerald  
W. A. Miesinger

Willamette River

City of Portland  
Outfall 22C

Siltronic Corporation

NW Natural  
(Gasco Site)

LNG  
Containment  
Basin

Ponds

Paved Parking

84" Concrete Pipe  
to Willamette River

Utility Easement

Contractor Area

Culvert  
Pipe

48" Culvert Pipe

NW St. Helens Road

Ditch (Ephemeral)

North  
Doane  
Lake

**Figure 1**  
**Gasco and**  
**Siltronic Sites**

7900 NW St. Helens Road  
Portland, Oregon

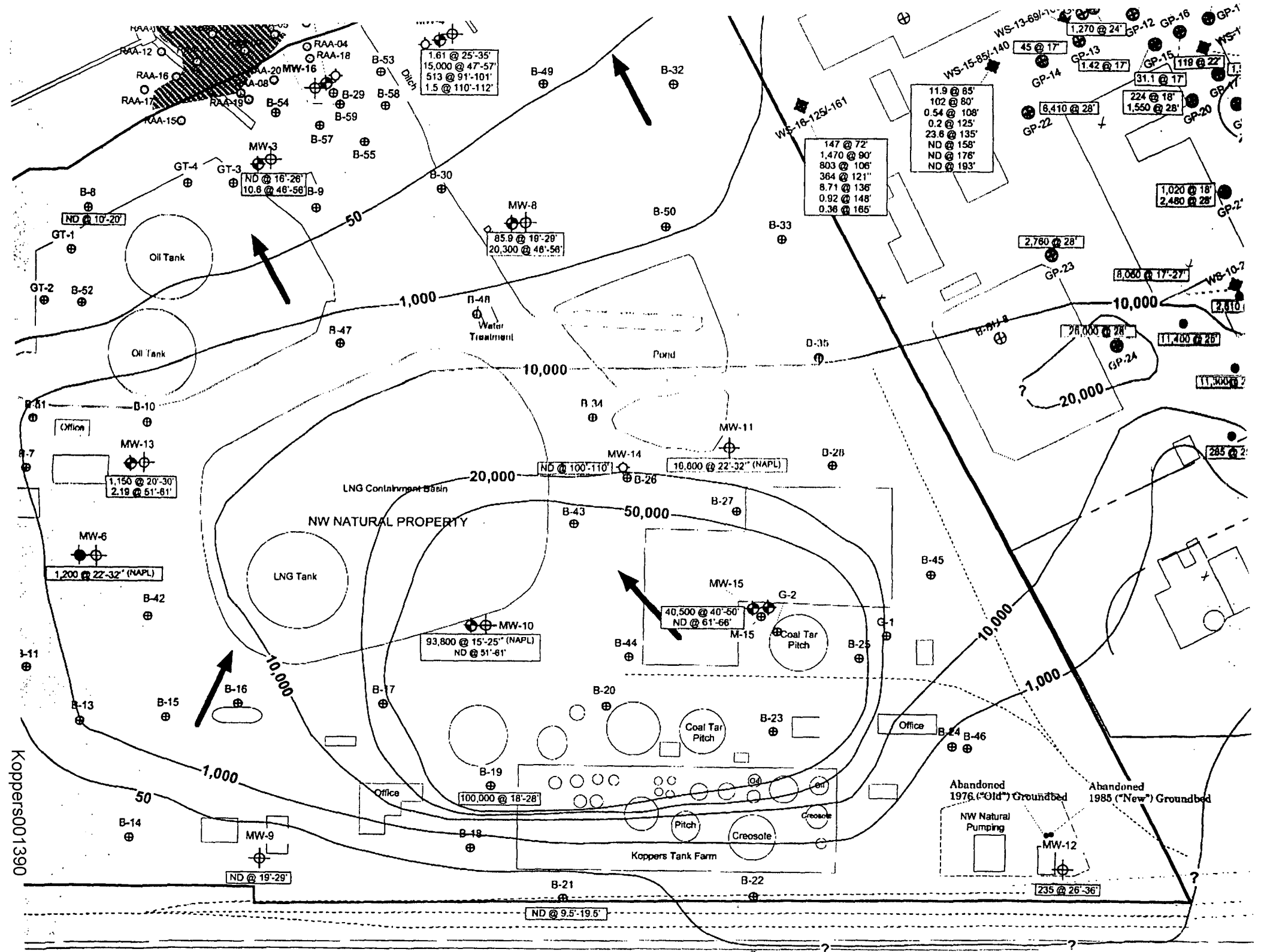
HAHN AND ASSOCIATES, INC.  
Project No. 2708 June 2005

**LEGEND**

- Site Boundary
- Existing Structure or Feature
- - - Railroad Tracks

0 250 500  
Approximate Scale in Feet

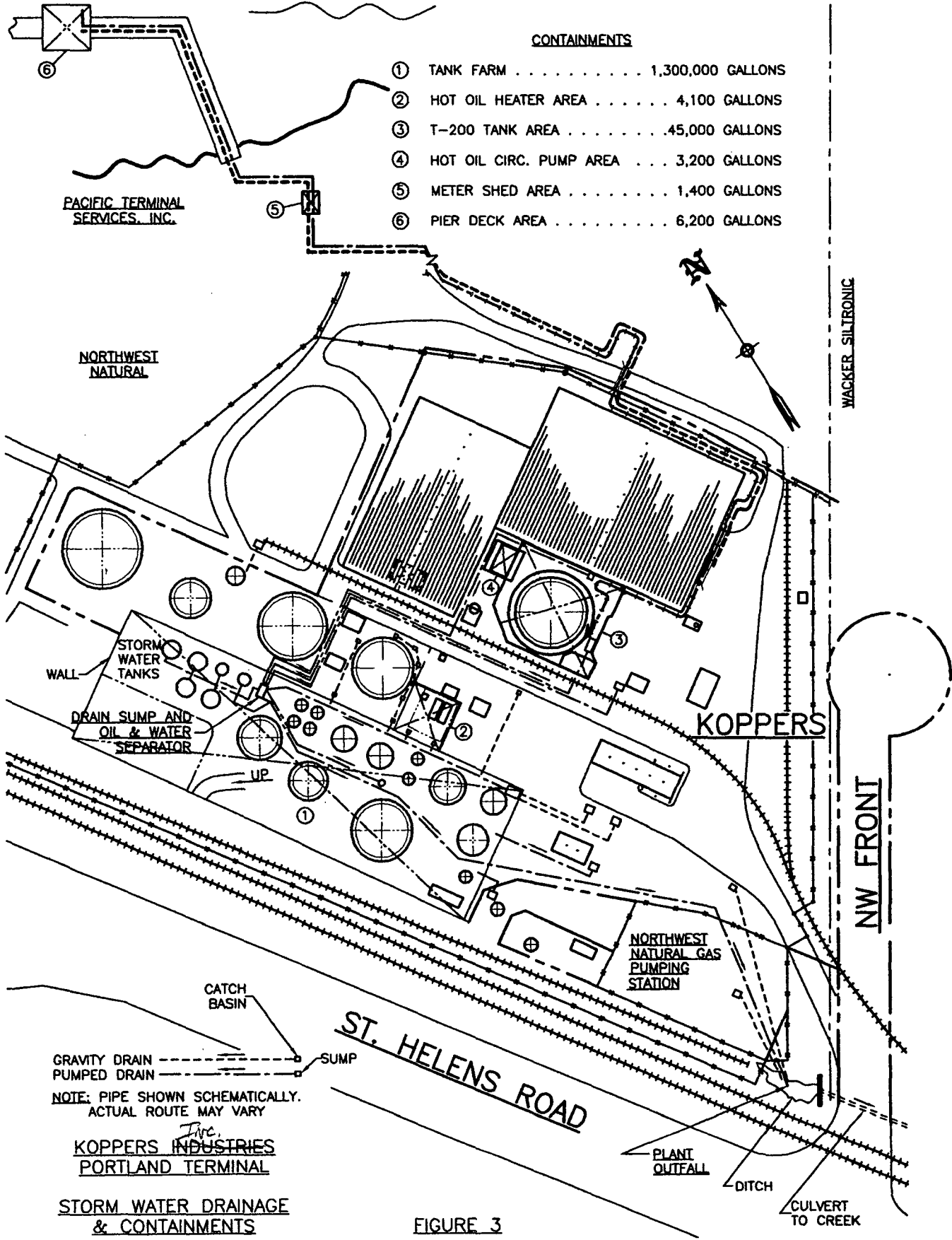
Koppers001389



# WILLAMETTE RIVER

## CONTAINMENTS

- ① TANK FARM . . . . . 1,300,000 GALLONS
- ② HOT OIL HEATER AREA . . . . . 4,100 GALLONS
- ③ T-200 TANK AREA . . . . . 45,000 GALLONS
- ④ HOT OIL CIRC. PUMP AREA . . . . . 3,200 GALLONS
- ⑤ METER SHED AREA . . . . . 1,400 GALLONS
- ⑥ PIER DECK AREA . . . . . 6,200 GALLONS

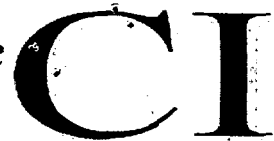


NOTE: PIPE SHOWN SCHEMATICALLY.  
ACTUAL ROUTE MAY VARY

KOPPERS INDUSTRIES  
PORTLAND TERMINAL

STORM WATER DRAINAGE  
& CONTAINMENTS

FIGURE 3



# CERTIFICATE OF ANALYSIS

CLIENT: Koppers Industries, Inc.  
ATTN: T.J. Turner  
7540 NW St. Helens Road  
Portland OR, 97210-3663

PROJECT NAME: Boiler Blowdown Water Test

PHONE: (503) 286-3681  
FAX: (503) 285-2831

SUBMITTED: 10/26/05 12:05

REPORT DATE: 11/18/05 15:59

REPORT NUMBER: 5102604

PAGE: 1 OF 4

CI SAMPLE	CLIENTS ID#	DATE	TIME	MATRIX
5102604-01	Boiler Blowdown Grab Sample	10/26/2005	1000	Water
5102604-02	Boiler Blowdown Grab Sample	11/16/2005	1000	Water

SAMPLE/ ANALYSIS	METHOD	PARAMETER	RESULTS	UNITS	DETECTION LIMIT	TECH	DATE/TIME
5102604-01 SAMPLE ID: Boiler Blowdown Grab Sample							
General Bench Analysis							
CYANIDE, TOTAL	SM 4500-CN-B-C	CYANIDE	ND	mg/L	0.0030	MES	11/03/2005 10:11
O & G, NP (SGT-HEM)	EPA 1664	NONPOLAR OIL & GREASE	ND	mg/L	2	JRW	11/07/2005 15:12
SULFIDE	EPA 376.1	SULFIDE	ND	mg/L	1.0	MES	11/01/2005 15:56
Total Mercury by Cold Vapor Atomic Fluorescence							
MERCURY CV AF	EPA 245.7/1631	MERCURY	0.00011	mg/L	0.000010	KEL	11/03/2005 12:24
Total Metals by Inductively Coupled Plasma							
ARSENIC - ICP	EPA 200.7/6010B	ARSENIC	ND	mg/L	0.010	KEL	10/27/2005 14:08
CADMIUM - ICP		CADMIUM	ND	mg/L	0.003	KEL	10/27/2005 14:08
CHROMIUM - ICP		CHROMIUM	ND	mg/L	0.005	KEL	10/27/2005 14:08
COPPER - ICP		COPPER	1.0	mg/L	0.005	KEL	10/27/2005 15:58
LEAD - ICP		LEAD	0.030	mg/L	0.005	KEL	10/27/2005 14:08
MOLYBDENUM - ICP		MOLYBDENUM	ND	mg/L	0.005	KEL	10/27/2005 15:58
NICKEL - ICP		NICKEL	ND	mg/L	0.020	KEL	10/27/2005 15:58
SELENIUM - ICP		SELENIUM	ND	mg/L	0.10	KEL	10/27/2005 14:08
SILVER - ICP		SILVER	ND	mg/L	0.010	KEL	10/27/2005 15:36
ZINC - ICP		ZINC	0.39	mg/L	0.003	KEL	10/27/2005 15:58


## Volatile Organics by Gas Chromatography/Mass Spectroscopy

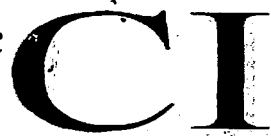
VOC 624 Extended	EPA 624	ACROLEIN	ND	mg/L	0.100	JRW	11/04/2005 10:48
		ACRYLONITRILE	ND	mg/L	0.0100		
		BENZENE	ND	mg/L	0.0005		
		BROMOCHLOROMETHANE	ND	mg/L	0.0005		
		BROMODICHLOROMETHANE	ND	mg/L	0.0005		
		BROMOFORM	ND	mg/L	0.0005		
		CARBON TETRACHLORIDE	ND	mg/L	0.0005		
		CHLOROBENZENE	ND	mg/L	0.0005		
		CHLORODIBROMOMETHANE	ND	mg/L	0.0005		
		CHLOROETHANE	ND	mg/L	0.0005		
		2-CHLOROETHYL VINYL ETHER	ND	mg/L	0.0005		
		tert-BUTYLBENZENE	ND	mg/L	0.0005		
		CHLOROFORM	ND	mg/L	0.0005		
		CHLOROMETHANE	ND	mg/L	0.0005		
		1,2-DICHLOROENZENE	ND	mg/L	0.0005		
		1,3-DICHLOROENZENE	ND	mg/L	0.0005		
		1,4-DICHLOROENZENE	ND	mg/L	0.0005		
		1,1-DICHLOROETHANE	ND	mg/L	0.0005		

ORIGINAL

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Richard D. Reid - Laboratory Director



# CERTIFICATE OF ANALYSIS

REPORT DATE: 11/18/05 15:59

REPORT NUMBER: 5102604

PAGE: 2 OF 4

SAMPLE/ ANALYSIS	METHOD	PARAMETER	RESULTS	UNITS	DETECTION LIMIT	TECH	DATE/TIME
5102604-01	SAMPLE ID: Boiler Blowdown Grab Sample						
Volatile Organics	by Gas Chromatography/Mass Spectroscopy						
VOC 624 Extended	EPA 624	1,2-DICHLOROETHANE	ND	mg/L	0.0005	JRW	11/04/2005 10:48
		1,1-DICHLOROETHYLENE	ND	mg/L	0.0005		
		1,2-DICHLOROPROPANE	ND	mg/L	0.0005		
		TRANS-1,3-DICHLOROPROPENE	ND	mg/L	0.0005		
		CIS-1,3-DICHLOROPROPENE	ND	mg/L	0.0005		
		TRANS-1,2-DICHLOROETHENE	ND	mg/L	0.0005		
		CIS-1,2-DICHLOROETHENE	ND	mg/L	0.0005		
		ETHYLBENZENE	ND	mg/L	0.0005		
		METHYL BROMIDE	ND	mg/L	0.0005		
		METHYL CHLORIDE	ND	mg/L	0.0005		
		METHYLENE CHLORIDE	ND	mg/L	0.0005		
		METHYL-TERT-BUTYL ETHER (MTBE)	ND	mg/L	0.0005		
		NAPHTHALENE	ND	mg/L	0.0005		
		STYRENE	ND	mg/L	0.0005		
		1,1,2,2-TETRACHLOROETHANE	ND	mg/L	0.0005		
		TETRACHLOROETHENE	ND	mg/L	0.0005		
		TOLUENE	ND	mg/L	0.0005		
		1,1,1-TRICHLOROETHANE	ND	mg/L	0.0005		
		1,1,2-TRICHLOROETHANE	ND	mg/L	0.0005		
		TRICHLOROETHYLENE	ND	mg/L	0.0005		
		TRICHLOROFLUORMETHANE	ND	mg/L	0.0005		
		VINYL CHLORIDE	ND	mg/L	0.0005		
		DIBROMOMETHANE	ND	mg/L	0.0005		
		1,2-DIBROMOETHANE	ND	mg/L	0.0005		
		1,1,1,2-TETRACHLOROETHANE	ND	mg/L	0.0005		
		M- & P-XYLENE	ND	mg/L	0.0005		
		O-XYLENE	ND	mg/L	0.0005		
		1,2,3-TRICHLOROPROPANE	ND	mg/L	0.0005		
		1,2-DIBROMO-3-CHLOROPROPANE	ND	mg/L	0.0005		
		Surrogate: Dibromofluoromethane	95.5 %	%RECOVERY	50-150		
		Surrogate: Fluorobenzene	70.9 %	%RECOVERY	50-150		
		Surrogate: Chlorobenzene-d5	151 %	%RECOVERY	50-150		
		Surrogate: 1,4-Dichlorobenzene-d4	89.1 %	%RECOVERY	50-150		
Semi-Volatile Organics by Gas Chromatography/Mass Spectroscopy							
ACID SEMIVOLS 625	EPA 625	PENTACHLOROPHENOL	ND	mg/L	0.0200	DM	10/27/2005 23:53
		Surrogate: Phenol-d6	32.1 %	%RECOVERY	20-150		
		Surrogate: 2,4,6-Tribromophenol	102 %	%RECOVERY	50-150		
B/N SEMIVOL 625		ACENAPHTHENE	ND	mg/L	0.00400	DM	10/27/2005 23:53
		ACENAPHTHYLENE	ND	mg/L	0.00400		
		a-TERPINEOL	ND	mg/L	0.00400		
		ANTHRACENE	ND	mg/L	0.00400		
		BENZIDINE	ND	mg/L	0.00800		
		BENZO(a)ANTHRACENE	ND	mg/L	0.00400		
		BENZO(a)PYRENE	ND	mg/L	0.00400		
		BENZO(k)FLUORANTHENE	ND	mg/L	0.00400		
		BENZO(g,h,i)PERYLENE	ND	mg/L	0.00400		
		BENZO(b)FLUORANTHENE	ND	mg/L	0.00400		
		BIS(2-CHLOROETHOXY)METHANE	ND	mg/L	0.00400		
		BIS(2-CHLOROETHYL)ETHER	ND	mg/L	0.00400		
		BIS(2-CHLOROISOPROPYL)ETHER	ND	mg/L	0.00400		
		BIS(2-ETHYLHEXYL)PHTHALATE	ND	mg/L	0.00400		
		BUTYL BENZYL PHTHALATE	ND	mg/L	0.00400		
		4-BROMOPHENYL PHENYL ETHER	ND	mg/L	0.00400		

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REPORT DATE: 11/18/05 15:59

REPORT NUMBER: 5102604

PAGE: 3 OF 4

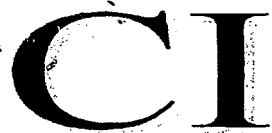
SAMPLE/ ANALYSIS	METHOD	PARAMETER	RESULTS	UNITS	DETECTION LIMIT	TECH	DATE/TIME
5102604-01	SAMPLE ID: Boiler Blowdown Grab Sample						
Semi-Volatile Organics by Gas Chromatography/Mass Spectroscopy							
B/N SEMIVOL 625	EPA 625	CARBAZOLE	ND	mg/L	0.00400	DM	10/27/2005 23:53
		2-CHLORONAPHTHALENE	ND	mg/L	0.00400		
		4-CHLOROPHENYL PHENYL ETHER	ND	mg/L	0.00400		
		CHRYSENE	ND	mg/L	0.00400		
		N-DECANE	ND	mg/L	0.00400		
		DIBENZO(a,h)ANTHRACENE	ND	mg/L	0.00400		
		3,3-DICHLOROBENZIDINE	ND	mg/L	0.00800		
		1,2-DICHLOROBENZENE	ND	mg/L	0.00400		
		1,3-DICHLOROBENZENE	ND	mg/L	0.00400		
		1,4-DICHLOROBENZENE	ND	mg/L	0.00400		
		DIETHYL PHTHALATE	ND	mg/L	0.00400		
		DIMETHYL PHTHALATE	ND	mg/L	0.00400		
		DI-N-BUTYL PHTHALATE	ND	mg/L	0.00400		
		DI-N-OCTYL PHTHALATE	ND	mg/L	0.00400		
		2,4-DINITROTOLUENE	ND	mg/L	0.00800		
		1,2-DIPHENYLHYDRAZINE (as	ND	mg/L	0.00400		
		AZOBENZENE)					
		2,6-DINITROTOLUENE	ND	mg/L	0.00800		
		FLUORANTHENE	ND	mg/L	0.00400		
		FLUORENE	ND	mg/L	0.00400		
		HEXACHLOROBENZENE	ND	mg/L	0.00400		
		HEXACHLOROBUTADIENE	ND	mg/L	0.00400		
		HEXACHLOROCCYCLOPENTADIENE	ND	mg/L	0.0200		
		HEXACHLOROETHANE	ND	mg/L	0.00400		
		INDENO(1,2,3-cd)PYRENE	ND	mg/L	0.00400		
		ISOPHORONE	ND	mg/L	0.00400		
		NAPHTHALENE	ND	mg/L	0.00400		
		NITROBENZENE	ND	mg/L	0.00400		
		N-NITROSODIMETHYLAMINE	ND	mg/L	0.00400		
		N-NITROSODIPHENYLAMINE	ND	mg/L	0.00400		
		N-NITROSO-DI-N-PROPYLAMINE	ND	mg/L	0.00400		
		N-OCTADECANE	ND	mg/L	0.00400		
		PHENANTHRENE	ND	mg/L	0.00400		
		PYRENE	ND	mg/L	0.00400		
		1,2,4-TRICHLOROBENZENE	ND	mg/L	0.00400		
		Surrogate: 2-Fluorobiphenyl	87.1 %	%RECOVERY	50-150		
		Surrogate: Nitrobenzene-D5	85.1 %	%RECOVERY	50-150		
		Surrogate: p-terphenyl-D14	99.4 %	%RECOVERY	50-150		

## Semi-Volatile Organics by Gas Chromatography/ECD

PESTICIDES 625	EPA 625	ALDRIN	ND	mg/L	0.00267	DM	10/27/2005 23:53
		ALPHA-BHC	ND	mg/L	0.00133		
		BETA-BHC	ND	mg/L	0.00267		
		GAMMA-BHC (LINDANE)	ND	mg/L	0.00133		
		DELTA-BHC	ND	mg/L	0.00267		
		4,4-DDD	ND	mg/L	0.00533		
		4,4-DDE	ND	mg/L	0.00267		
		CHLORDANE	ND	mg/L	0.00267		
		4,4-DDT	ND	mg/L	0.00533		
		DIELDRIN	ND	mg/L	0.00267		
		ENDOSULFAN I	ND	mg/L	0.00267		
		ENDOSULFAN II	ND	mg/L	0.00533		
		ENDOSULFAN SULFATE	ND	mg/L	0.00533		
		ENDRIN	ND	mg/L	0.00267		
		ENDRIN ALDEHYDE	ND	mg/L	0.00667		

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# CERTIFICATE OF ANALYSIS

REPORT DATE: 11/18/05 15:59

REPORT NUMBER: 5102604

PAGE: 4 OF 4

SAMPLE/ ANALYSIS	METHOD	PARAMETER	RESULTS	UNITS	DETECTION LIMIT	TECH	DATE/TIME
5102604-01	SAMPLE ID: Boiler Blowdown Grab Sample						
Semi-Volatile Organics by Gas Chromatography/ECD							
PESTICIDES 625	EPA 625	ENDRIN KETONE	ND	mg/L	0.00667	DM	10/27/2005 23:53
		HEPTACHLOR	ND	mg/L	0.00267		
		HEPTACHLOR EPOXIDE	ND	mg/L	0.00267		
		ALPHA-CHLORDANE	ND	mg/L	0.00267		
		METHOXYCHLOR	ND	mg/L	0.00667		
		GAMMA-CHLORDANE	ND	mg/L	0.00267		
		TOXAPHENE	ND	mg/L	0.0533		
5102604-02	SAMPLE ID: Boiler Blowdown Grab Sample						
General Bench Analysis							
PH	EPA 150.1/9040	pH	10.5	SU		MES	11/16/2005 17:06
		TEMPERATURE (C)	21.8	SU			

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U.S. Customs Certified Gauger and Laboratory

**DATE:** 11/18/2005  
**CLIENT:** Koppers Industries, Inc.  
7540 NW St. Helens Road  
Portland OR, 97210-3663

**ATTN:** T.J. Turner

**FAX:** (503) 285-2831

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Portland, OR 97203  
(503) 286-9464  
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Fife, WA 98424	Benicia, CA 94510	San Pedro, CA 90731
(253) 922-8781	(707) 748-7587	(310) 833-1557
FAX(253) 922-8957	FAX (707) 748-7764	FAX (310) 833-1585

With PH !!  
Dick



# CERTIFICATE OF ANALYSIS

CLIENT: Koppers Industries, Inc.  
ATTN: T.J. Turner  
7540 NW St. Helens Road  
Portland OR, 97210-3663

PROJECT NAME: Boiler Blowdown Water Test

PHONE: (503) 286-3681

FAX: (503) 285-2831

SUBMITTED: 10/26/05 12:05

REPORT DATE: 11/18/05 15:59

REPORT NUMBER: 5102604

PAGE: 1 OF 4

CI SAMPLE	CLIENTS ID#	DATE	TIME	MATRIX
5102604-01	Boiler Blowdown Grab Sample	10/26/2005	1000	Water
5102604-02	Boiler Blowdown Grab Sample	11/16/2005	1000	Water

SAMPLE/ANALYSIS	METHOD	PARAMETER	RESULTS	UNITS	DETECTION LIMIT	TECH	DATE/TIME
<b>5102604-01 SAMPLE ID: Boiler Blowdown Grab Sample</b>							
<b>General Bench Analysis</b>							
CYANIDE, TOTAL	SM 4500-CN-B-C	CYANIDE	ND	mg/L	0.0030	MES	11/03/2005 10:11
O & G, NP (SGT-HEM)	EPA 1664	NONPOLAR OIL & GREASE	ND	mg/L	2	JRW	11/07/2005 15:12
SULFIDE	EPA 376.1	SULFIDE	ND	mg/L	1.0	MES	11/01/2005 15:56
<b>Total Mercury by Cold Vapor Atomic Fluorescence</b>							
MERCURY CV AF	EPA 245.7/1631	MERCURY	0.00011	mg/L	0.000010	KEL	11/03/2005 12:24
<b>Total Metals by Inductively Coupled Plasma</b>							
ARSENIC - ICP	EPA 200.7/6010B	ARSENIC	ND	mg/L	0.010	KEL	10/27/2005 14:08
CADMIUM - ICP		CADMIUM	ND	mg/L	0.003	KEL	10/27/2005 14:08
CHROMIUM - ICP		CHROMIUM	ND	mg/L	0.005	KEL	10/27/2005 14:08
COPPER - ICP		COPPER	1.0	mg/L	0.005	KEL	10/27/2005 15:56
LEAD - ICP		LEAD	0.030	mg/L	0.005	KEL	10/27/2005 14:08
MOLYBDENUM - ICP		MOLYBDENUM	ND	mg/L	0.005	KEL	10/27/2005 15:56
NICKEL - ICP		NICKEL	ND	mg/L	0.020	KEL	10/27/2005 15:56
SELENIUM - ICP		SELENIUM	ND	mg/L	0.10	KEL	10/27/2005 14:08
SILVER - ICP		SILVER	ND	mg/L	0.010	KEL	10/27/2005 15:36
ZINC - ICP		ZINC	0.39	mg/L	0.003	KEL	10/27/2005 15:56

## Volatile Organics by Gas Chromatography/Mass Spectroscopy

VOC 624 Extended	EPA 624	ACROLEIN	ND	mg/L	0.100	JRW	11/04/2005 10:48
		ACRYLONITRILE	ND	mg/L	0.0100		
		BENZENE	ND	mg/L	0.0005		
		BROMOCHLOROMETHANE	ND	mg/L	0.0005		
		BROMODICHLOROMETHANE	ND	mg/L	0.0005		
		BROMOFORM	ND	mg/L	0.0005		
		CARBON TETRACHLORIDE	ND	mg/L	0.0005		
		CHLOROBENZENE	ND	mg/L	0.0005		
		CHLORODIBROMOMETHANE	ND	mg/L	0.0005		
		CHLOROETHANE	ND	mg/L	0.0005		
		2-CHLOROETHYL VINYL ETHER	ND	mg/L	0.0005		
		tert-BUTYLBENZENE	ND	mg/L	0.0005		
		CHLOROFORM	ND	mg/L	0.0005		
		CHLOROMETHANE	ND	mg/L	0.0005		
		1,2-DICHLOROBENZENE	ND	mg/L	0.0005		
		1,3-DICHLOROBENZENE	ND	mg/L	0.0005		
		1,4-DICHLOROBENZENE	ND	mg/L	0.0005		
		1,1-DICHLOROETHANE	ND	mg/L	0.0005		

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# CERTIFICATE OF ANALYSIS

REPORT DATE: 11/18/05 15:59

REPORT NUMBER: 5102604

PAGE: 2 OF 4

SAMPLE/ ANALYSIS	METHOD	PARAMETER	RESULTS	UNITS	DETECTION LIMIT	TECH	DATE/TIME
5102604-01	SAMPLE ID: Boiler Blowdown Grab Sample						
Volatile Organics	by Gas Chromatography/Mass Spectroscopy						
VOC 624 Extended	EPA 624	1,2-DICHLOROETHANE	ND	mg/L	0.0005	JRW	11/04/2005 10:48
		1,1-DICHLOROETHYLENE	ND	mg/L	0.0005		
		1,2-DICHLOROPROPANE	ND	mg/L	0.0005		
		TRANS-1,3-DICHLOROPROPENE	ND	mg/L	0.0005		
		CIS-1,3-DICHLOROPROPENE	ND	mg/L	0.0005		
		TRANS-1,2-DICHLOROETHENE	ND	mg/L	0.0005		
		CIS-1,2-DICHLOROETHENE	ND	mg/L	0.0005		
		ETHYLBENZENE	ND	mg/L	0.0005		
		METHYL BROMIDE	ND	mg/L	0.0005		
		METHYL CHLORIDE	ND	mg/L	0.0005		
		METHYLENE CHLORIDE	ND	mg/L	0.0005		
		METHYL-TERT-BUTYL ETHER (MTBE)	ND	mg/L	0.0005		
		NAPHTHALENE	ND	mg/L	0.0005		
		STYRENE	ND	mg/L	0.0005		
		1,1,2,2-TETRACHLOROETHANE	ND	mg/L	0.0005		
		TETRACHLOROETHENE	ND	mg/L	0.0005		
		TOLUENE	ND	mg/L	0.0005		
		1,1,1-TRICHLOROETHANE	ND	mg/L	0.0005		
		1,1,2-TRICHLOROETHANE	ND	mg/L	0.0005		
		TRICHLOROETHYLENE	ND	mg/L	0.0005		
		TRICHLOROFLUORMETHANE	ND	mg/L	0.0005		
		VINYL CHLORIDE	ND	mg/L	0.0005		
		DIBROMOMETHANE	ND	mg/L	0.0005		
		1,2-DIBROMOETHANE	ND	mg/L	0.0005		
		1,1,1,2-TETRACHLOROETHANE	ND	mg/L	0.0005		
		M- & P-XYLENE	ND	mg/L	0.0005		
		O-XYLENE	ND	mg/L	0.0005		
		1,2,3-TRICHLOROPROPANE	ND	mg/L	0.0005		
		1,2-DIBROMO-3-CHLOROPROPANE	ND	mg/L	0.0005		
		Surrogate: Dibromofluoromethane	95.5 %	%RECOVERY	50-150		
		Surrogate: Fluorobenzene	70.9 %	%RECOVERY	50-150		
		Surrogate: Chlorobenzene-d5	151 %	%RECOVERY	50-150		
		Surrogate: 1,4-Dichlorobenzene-d4	89.1 %	%RECOVERY	50-150		

## Semi-Volatile Organics by Gas Chromatography/Mass Spectroscopy

ACID SEMIVOLS 825	EPA 825	PENTACHLOROPHENOL	ND	mg/L	0.0200	DM	10/27/2005 23:53
		Surrogate: Phenol-d6	32.1 %	%RECOVERY	20-150		
		Surrogate: 2,4,6-Tribromophenol	102 %	%RECOVERY	50-150		
B/N SEMIVOL 625		ACENAPHTHENE	ND	mg/L	0.00400	DM	10/27/2005 23:53
		ACENAPHTHYLENE	ND	mg/L	0.00400		
		α-TERPINEOL	ND	mg/L	0.00400		
		ANTHRACENE	ND	mg/L	0.00400		
		BENZIDINE	ND	mg/L	0.00800		
		BENZO(a)ANTHRACENE	ND	mg/L	0.00400		
		BENZO(a)PYRENE	ND	mg/L	0.00400		
		BENZO(k)FLUORANTHENE	ND	mg/L	0.00400		
		BENZO(g,h,i)PERYLENE	ND	mg/L	0.00400		
		BENZO(b)FLUORANTHENE	ND	mg/L	0.00400		
		BIS(2-CHLOROETHOXY)METHANE	ND	mg/L	0.00400		
		BIS(2-CHLOROETHYL)ETHER	ND	mg/L	0.00400		
		BIS(2-CHLOROISOPROPYL)ETHER	ND	mg/L	0.00400		
		BIS(2-ETHYLHEXYL)PHTHALATE	ND	mg/L	0.00400		
		BUTYL BENZYL PHTHALATE	ND	mg/L	0.00400		
		4-BROMOPHENYL PHENYL ETHER	ND	mg/L	0.00400		

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# CERTIFICATE OF ANALYSIS

REPORT DATE: 11/18/05 15:59

REPORT NUMBER: 5102604

PAGE: 3 OF 4

SAMPLE/ ANALYSIS	METHOD	PARAMETER	RESULTS	UNITS	DETECTION LIMIT	TECH	DATE/TIME
<b>5102604-01 SAMPLE ID: Boiler Blowdown Grab Sample</b>							
<b>Semi-Volatile Organics by Gas Chromatography/Mass Spectroscopy</b>							
B/N SEMIVOL 625	EPA 625	CARBAZOLE	ND	mg/L	0.00400	DM	10/27/2005 23:53
		2-CHLORONAPHTHALENE	ND	mg/L	0.00400		
		4-CHLOROPHENYL PHENYL ETHER	ND	mg/L	0.00400		
		CHRYSENE	ND	mg/L	0.00400		
		N-DECANE	ND	mg/L	0.00400		
		DIBENZO(a,h)ANTHRACENE	ND	mg/L	0.00400		
		3,3-DICHLOROBENZIDINE	ND	mg/L	0.00800		
		1,2-DICHLOROBENZENE	ND	mg/L	0.00400		
		1,3-DICHLOROBENZENE	ND	mg/L	0.00400		
		1,4-DICHLOROBENZENE	ND	mg/L	0.00400		
		DIETHYL PHTHALATE	ND	mg/L	0.00400		
		DIMETHYL PHTHALATE	ND	mg/L	0.00400		
		DI-N-BUTYL PHTHALATE	ND	mg/L	0.00400		
		DI-N-OCTYL PHTHALATE	ND	mg/L	0.00400		
		2,4-DINITROTOLUENE	ND	mg/L	0.00800		
		1,2-DIPHENYLHYDRAZINE (as AZOBENZENE)	ND	mg/L	0.00400		
		2,6-DINITROTOLUENE	ND	mg/L	0.00800		
		FLUORANTHENE	ND	mg/L	0.00400		
		FLUORENE	ND	mg/L	0.00400		
		HEXACHLOROBENZENE	ND	mg/L	0.00400		
		HEXACHLOROBUTADIENE	ND	mg/L	0.00400		
		HEXACHLOROCYCLOPENTADIENE	ND	mg/L	0.0200		
		HEXACHLOROETHANE	ND	mg/L	0.00400		
		INDENO(1,2,3-cd)PYRENE	ND	mg/L	0.00400		
		ISOPHORONE	ND	mg/L	0.00400		
		NAPHTHALENE	ND	mg/L	0.00400		
		NITROBENZENE	ND	mg/L	0.00400		
		N-NITROSODIMETHYLAMINE	ND	mg/L	0.00400		
		N-NITROSODIPHENYLAMINE	ND	mg/L	0.00400		
		N-NITROSO-DI-N-PROPYLAMINE	ND	mg/L	0.00400		
		N-OCTADECANE	ND	mg/L	0.00400		
		PHENANTHRENE	ND	mg/L	0.00400		
		PYRENE	ND	mg/L	0.00400		
		1,2,4-TRICHLOROBENZENE	ND	mg/L	0.00400		
		Surrogate: 2-Fluorobiphenyl	87.1 %	%RECOVERY	50-150		
		Surrogate: Nitrobenzene-D5	85.1 %	%RECOVERY	50-150		
		Surrogate: p-terphenyl-D14	99.4 %	%RECOVERY	50-150		
<b>Semi-Volatile Organics by Gas Chromatography/ECD</b>							
PESTICIDES 625	EPA 625	ALDRIN	ND	mg/L	0.00267	DM	10/27/2005 23:53
		ALPHA-BHC	ND	mg/L	0.00133		
		BETA-BHC	ND	mg/L	0.00267		
		GAMMA-BHC (LINDANE)	ND	mg/L	0.00133		
		DELTA-BHC	ND	mg/L	0.00267		
		4,4-DDD	ND	mg/L	0.00533		
		4,4-DDE	ND	mg/L	0.00267		
		CHLORDANE	ND	mg/L	0.00267		
		4,4-DDT	ND	mg/L	0.00533		
		DIELDRIN	ND	mg/L	0.00267		
		ENDOSULFAN I	ND	mg/L	0.00267		
		ENDOSULFAN II	ND	mg/L	0.00533		
		ENDOSULFAN SULFATE	ND	mg/L	0.00533		
		ENDRIN	ND	mg/L	0.00267		
		ENDRIN ALDEHYDE	ND	mg/L	0.00867		

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# CERTIFICATE OF ANALYSIS

CLIENT: Koppers Industries, Inc.  
ATTN: T.J. Turner  
7540 NW St. Helens Road  
Portland OR, 97210-3663

PROJECT NAME: Boiler Blowdown Water Test

PHONE: (503) 286-3681  
FAX: (503) 285-2831

SUBMITTED: 10/26/05 12:05

REPORT DATE: 11/08/05 15:56

REPORT NUMBER: 5102604

PAGE: 1 OF 4

CI SAMPLE	CLIENTS ID#	DATE	TIME	MATRIX
5102604-01	Boiler Blowdown Grab Sample	10/26/2005	1000	Water

SAMPLE/ ANALYSIS	METHOD	PARAMETER	RESULTS	UNITS	DETECTION LIMIT	TECH	DATE/TIME
5102604-01 SAMPLE ID: Boiler Blowdown Grab Sample General Bench Analysis							
CYANIDE, TOTAL	SM 4500-CN-B-C	CYANIDE	ND	mg/L	0.0030	MES	11/03/2005 10:11
O & G, NP (SGT-HEM)	EPA 1664	NONPOLAR OIL & GREASE	ND	mg/L	2	JRW	11/07/2005 15:12
SULFIDE	EPA 376.1	SULFIDE	ND	mg/L	1.0	MES	11/01/2005 15:56

## Total Mercury by Cold Vapor Atomic Fluorescence

MERCURY CV AF	EPA 245.7/1631	MERCURY	0.00011	mg/L	0.000050	KEL	11/03/2005 12:24
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## Total Metals by Inductively Coupled Plasma

ARSENIC - ICP	EPA 200.7/6010B	ARSENIC	ND	mg/L	0.010	KEL	10/27/2005 14:08
CADMIUM - ICP		CADMIUM	ND	mg/L	0.003	KEL	10/27/2005 14:08
CHROMIUM - ICP		CHROMIUM	ND	mg/L	0.005	KEL	10/27/2005 14:08
COPPER - ICP		COPPER	1.0	mg/L	0.005	KEL	10/27/2005 15:58
LEAD - ICP		LEAD	0.030	mg/L	0.005	KEL	10/27/2005 14:08
MOLYBDENUM - ICP		MOLYBDENUM	ND	mg/L	0.005	KEL	10/27/2005 15:58
NICKEL - ICP		NICKEL	ND	mg/L	0.020	KEL	10/27/2005 15:58
SELENIUM - ICP		SELENIUM	ND	mg/L	0.10	KEL	10/27/2005 14:08
SILVER - ICP		SILVER	ND	mg/L	0.010	KEL	10/27/2005 15:36
ZINC - ICP		ZINC	0.39	mg/L	0.003	KEL	10/27/2005 15:58

## Volatile Organics by Gas Chromatography/Mass Spectroscopy

VOC 824 Extended	EPA 624	ACROLEIN	ND	mg/L	0.100	JRW	11/04/2005 10:48
		ACRYLONITRILE	ND	mg/L	0.0100		
		BENZENE	ND	mg/L	0.0005		
		BROMOCHLOROMETHANE	ND	mg/L	0.0005		
		BROMODICHLOROMETHANE	ND	mg/L	0.0005		
		BROMOFORM	ND	mg/L	0.0005		
		CARBON TETRACHLORIDE	ND	mg/L	0.0005		
		CHLOROBENZENE	ND	mg/L	0.0005		
		CHLORODIBROMOMETHANE	ND	mg/L	0.0005		
		CHLOROETHANE	ND	mg/L	0.0005		
		2-CHLOROETHYL VINYL ETHER	ND	mg/L	0.0005		
		tert-BUTYLBENZENE	ND	mg/L	0.0005		
		CHLOROFORM	ND	mg/L	0.0005		
		CHLOROMETHANE	ND	mg/L	0.0005		
		1,2-DICHLOROBENZENE	ND	mg/L	0.0005		
		1,3-DICHLOROBENZENE	ND	mg/L	0.0005		
		1,4-DICHLOROBENZENE	ND	mg/L	0.0005		
		1,1-DICHLOROETHANE	ND	mg/L	0.0005		
		1,2-DICHLOROETHANE	ND	mg/L	0.0005		
		1,1-DICHLOROETHYLENE	ND	mg/L	0.0005		
		1,2-DICHLOROPROPANE	ND	mg/L	0.0005		
		TRANS-1,3-DICHLOROPROPENE	ND	mg/L	0.0005		
		CIS-1,3-DICHLOROPROPENE	ND	mg/L	0.0005		

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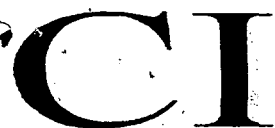
REPORT NUMBER: 5102604

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SAMPLE/ ANALYSIS	METHOD	PARAMETER	RESULTS	UNITS	DETECTION LIMIT	TECH	DATE/TIME
5102604-01	SAMPLE ID: Boiler Blowdown Grab Sample						
Volatile Organics by Gas Chromatography/Mass Spectroscopy							
VOC 624 Extended	EPA 624	TRANS-1,2-DICHLOROETHENE	ND	mg/L	0.0005	JRW	11/04/2005 10:48
		CIS-1,2-DICHLOROETHENE	ND	mg/L	0.0005		
		ETHYLBENZENE	ND	mg/L	0.0005		
		METHYL BROMIDE	ND	mg/L	0.0005		
		METHYL CHLORIDE	ND	mg/L	0.0005		
		METHYLENE CHLORIDE	ND	mg/L	0.0005		
		METHYL-TERT-BUTYL ETHER (MTBE)	ND	mg/L	0.0005		
		NAPHTHALENE	ND	mg/L	0.0005		
		STYRENE	ND	mg/L	0.0005		
		1,1,2,2-TETRACHLOROETHANE	ND	mg/L	0.0005		
		TETRACHLOROETHENE	ND	mg/L	0.0005		
		TOLUENE	ND	mg/L	0.0005		
		1,1,1-TRICHLOROETHANE	ND	mg/L	0.0005		
		1,1,2-TRICHLOROETHANE	ND	mg/L	0.0005		
		TRICHLOROETHYLENE	ND	mg/L	0.0005		
		TRICHLOROFLUORMETHANE	ND	mg/L	0.0005		
		VINYL CHLORIDE	ND	mg/L	0.0005		
		DIBROMOMETHANE	ND	mg/L	0.0005		
		1,2-DIBROMOETHANE	ND	mg/L	0.0005		
		1,1,1,2-TETRACHLOROETHANE	ND	mg/L	0.0005		
		M- & P-XYLENE	ND	mg/L	0.0005		
		O-XYLENE	ND	mg/L	0.0005		
		1,2,3-TRICHLOROPROPANE	ND	mg/L	0.0005		
		1,2-DIBROMO-3-CHLOROPROPANE	ND	mg/L	0.0005		
		Surrogate: Dibromofluoromethane	95.5 %	%RECOVERY	50-150		
		Surrogate: Fluorobenzene	70.9 %	%RECOVERY	50-150		
		Surrogate: Chlorobenzene-d5	151 %	%RECOVERY	50-150		
		Surrogate: 1,4-Dichlorobenzene-d4	89.1 %	%RECOVERY	50-150		
Semi-Volatile Organics by Gas Chromatography/Mass Spectroscopy							
ACID SEMIVOLS 625	EPA 625	PENTACHLOROPHENOL	ND	mg/L	0.0200	DM	10/27/2005 23:53
		Surrogate: Phenol-d6	32.1 %	%RECOVERY	20-150		
		Surrogate: 2,4,6-Tribromophenol	102 %	%RECOVERY	50-150		
B/N SEMIVOL 625		ACENAPHTHENE	ND	mg/L	0.00400	DM	10/27/2005 23:53
		ACENAPHTHYLENE	ND	mg/L	0.00400		
		a-TERPINEOL	ND	mg/L	0.00400		
		ANTHRACENE	ND	mg/L	0.00400		
		BENZIDINE	ND	mg/L	0.00800		
		BENZO(a)ANTHRACENE	ND	mg/L	0.00400		
		BENZO(a)PYRENE	ND	mg/L	0.00400		
		BENZO(k)FLUORANTHENE	ND	mg/L	0.00400		
		BENZO(g,h,i)PERYLENE	ND	mg/L	0.00400		
		BENZO(b)FLUORANTHENE	ND	mg/L	0.00400		
		BIS(2-CHLOROETHOXY)METHANE	ND	mg/L	0.00400		
		BIS(2-CHLOROETHYL)ETHER	ND	mg/L	0.00400		
		BIS(2-CHLOROISOPROPYL)ETHER	ND	mg/L	0.00400		
		BIS(2-ETHYLHEXYL)PHTHALATE	ND	mg/L	0.00400		
		BUTYL BENZYL PHTHALATE	ND	mg/L	0.00400		
		4-BROMOPHENYL PHENYL ETHER	ND	mg/L	0.00400		
		CARBAZOLE	ND	mg/L	0.00400		
		2-CHLORONAPHTHALENE	ND	mg/L	0.00400		
		4-CHLOROPHENYL PHENYL ETHER	ND	mg/L	0.00400		
		CHRYSENE	ND	mg/L	0.00400		
		N-DECANE	ND	mg/L	0.00400		
		DIBENZO(a,h)ANTHRACENE	ND	mg/L	0.00400		
		3,3-DICHLOROBENZIDINE	ND	mg/L	0.00800		

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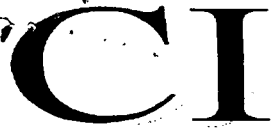
SAMPLE/ ANALYSIS	METHOD	PARAMETER	RESULTS	UNITS	DETECTION LIMIT	TECH	DATE/TIME
5102604-01	SAMPLE ID: Boiler Blowdown Grab Sample						
Semi-Volatile Organics by Gas Chromatography/Mass Spectroscopy							
B/N SEMIVOL 625	EPA 625	1,2-DICHLOROBENZENE	ND	mg/L	0.00400	DM	10/27/2005 23:53
		1,3-DICHLOROBENZENE	ND	mg/L	0.00400		
		1,4-DICHLOROBENZENE	ND	mg/L	0.00400		
		DIETHYL PHTHALATE	ND	mg/L	0.00400		
		DIMETHYL PHTHALATE	ND	mg/L	0.00400		
		DI-N-BUTYL PHTHALATE	ND	mg/L	0.00400		
		DI-N-OCTYL PHTHALATE	ND	mg/L	0.00400		
		2,4-DINITROTOLUENE	ND	mg/L	0.00800		
		1,2-DIPHENYLHYDRAZINE (as AZOBENZENE)	ND	mg/L	0.00400		
		2,6-DINITROTOLUENE	ND	mg/L	0.00800		
		FLUORANTHENE	ND	mg/L	0.00400		
		FLUORENE	ND	mg/L	0.00400		
		HEXACHLOROBENZENE	ND	mg/L	0.00400		
		HEXACHLOROBUTADIENE	ND	mg/L	0.00400		
		HEXACHLOROCYCLOPENTADIENE	ND	mg/L	0.0200		
		HEXACHLOROETHANE	ND	mg/L	0.00400		
		INDENO(1,2,3- <i>cd</i> )PYRENE	ND	mg/L	0.00400		
		ISOPHORONE	ND	mg/L	0.00400		
		NAPHTHALENE	ND	mg/L	0.00400		
		NITROBENZENE	ND	mg/L	0.00400		
		N-NITROSODIMETHYLAMINE	ND	mg/L	0.00400		
		N-NITROSODIPHENYLAMINE	ND	mg/L	0.00400		
		N-NITROSO-DI-N-PROPYLAMINE	ND	mg/L	0.00400		
		N-OCTADECANE	ND	mg/L	0.00400		
		PHENANTHRENE	ND	mg/L	0.00400		
		PYRENE	ND	mg/L	0.00400		
		1,2,4-TRICHLOROBENZENE	ND	mg/L	0.00400		
		Surrogate: 2-Fluorobiphenyl	87.1 %	%RECOVERY	50-150		
		Surrogate: Nitrobenzene-D5	85.1 %	%RECOVERY	50-150		
		Surrogate: p-terphenyl-D14	99.4 %	%RECOVERY	50-150		

## Semi-Volatile Organics by Gas Chromatography/ECD

PESTICIDES 625	EPA 625	ALDRIN	ND	mg/L	0.00267	DM	10/27/2005 23:53
		ALPHA-BHC	ND	mg/L	0.00133		
		BETA-BHC	ND	mg/L	0.00267		
		GAMMA-BHC (LINDANE)	ND	mg/L	0.00133		
		DELTA-BHC	ND	mg/L	0.00267		
		4,4-DDD	ND	mg/L	0.00533		
		4,4-DDE	ND	mg/L	0.00267		
		CHLORDANE	ND	mg/L	0.00267		
		4,4-DDT	ND	mg/L	0.00533		
		DIELDRIN	ND	mg/L	0.00267		
		ENDOSULFAN I	ND	mg/L	0.00267		
		ENDOSULFAN II	ND	mg/L	0.00533		
		ENDOSULFAN SULFATE	ND	mg/L	0.00533		
		ENDRIN	ND	mg/L	0.00267		
		ENDRIN ALDEHYDE	ND	mg/L	0.00667		
		ENDRIN KETONE	ND	mg/L	0.00667		
		HEPTACHLOR	ND	mg/L	0.00267		
		HEPTACHLOR EPOXIDE	ND	mg/L	0.00267		
		ALPHA-CHLORDANE	ND	mg/L	0.00267		
		METHOXYCHLOR	ND	mg/L	0.00667		
		GAMMA-CHLORDANE	ND	mg/L	0.00267		
		TOXAPHENE	ND	mg/L	0.0533		

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REPORT DATE: 11/08/05 16:23

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PAGE: 4 OF 4

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Laboratory Director





# CERTIFICATE OF ANALYSIS

CLIENT: Koppers Industries, Inc.  
ATTN: T.J. Turner  
7540 NW St. Helens Road  
Portland OR, 97210-3663

PROJECT NAME: Boiler Blowdown Water Test

PHONE: (503) 286-3681  
FAX: (503) 285-2831

SUBMITTED: 10/26/05 12:05

REPORT DATE: 11/08/05 15:56

REPORT NUMBER: 5102604

PAGE: 1 OF 4

CI SAMPLE	CLIENTS ID#	DATE	TIME	MATRIX			
5102604-01	Boiler Blowdown Grab Sample	10/26/2005	1000	Water			
SAMPLE/ ANALYSIS	METHOD	PARAMETER	RESULTS	UNITS	DETECTION LIMIT	TECH	DATE/TIME
5102604-01	SAMPLE ID: Boiler Blowdown Grab Sample						
General Bench Analysis							
CYANIDE, TOTAL	SM 4500-CN-B-C	CYANIDE	ND	mg/L	0.0030	MES	11/03/2005 10:11
O & G, NP (SGT-HEM)	EPA 1664	NONPOLAR OIL & GREASE	ND	mg/L	2	JRW	11/07/2005 15:12
SULFIDE	EPA 376.1	SULFIDE	ND	mg/L	1.0	MES	11/01/2005 15:56
Total Mercury by Cold Vapor Atomic Fluorescence							
MERCURY CV AF	EPA 245.7/1631	MERCURY	0.00011	mg/L	0.000050	KEL	11/03/2005 12:24
Total Metals by Inductively Coupled Plasma							
ARSENIC - ICP	EPA 200.7/6010B	ARSENIC	ND	mg/L	0.010	KEL	10/27/2005 14:08
CADMIUM - ICP		CADMIUM	ND	mg/L	0.003	KEL	10/27/2005 14:08
CHROMIUM - ICP		CHROMIUM	ND	mg/L	0.005	KEL	10/27/2005 14:08
COPPER - ICP		COPPER	1.0	mg/L	0.005	KEL	10/27/2005 15:58
LEAD - ICP		LEAD	0.030	mg/L	0.005	KEL	10/27/2005 14:08
MOLYBDENUM - ICP		MOLYBDENUM	ND	mg/L	0.005	KEL	10/27/2005 15:58
NICKEL - ICP		NICKEL	ND	mg/L	0.020	KEL	10/27/2005 15:58
SELENIUM - ICP		SELENIUM	ND	mg/L	0.10	KEL	10/27/2005 14:08
SILVER - ICP		SILVER	ND	mg/L	0.010	KEL	10/27/2005 15:36
ZINC - ICP		ZINC	0.39	mg/L	0.003	KEL	10/27/2005 15:58
Volatile Organics by Gas Chromatography/Mass Spectroscopy							
VOC 624 Extended	EPA 624	ACROLEIN	ND	mg/L	0.100	JRW	11/04/2005 10:48
		ACRYLONITRILE	ND	mg/L	0.0100		
		BENZENE	ND	mg/L	0.0005		
		BROMOCHLOROMETHANE	ND	mg/L	0.0005		
		BROMODICHLOROMETHANE	ND	mg/L	0.0005		
		BROMOFORM	ND	mg/L	0.0005		
		CARBON TETRACHLORIDE	ND	mg/L	0.0005		
		CHLOROENZENE	ND	mg/L	0.0005		
		CHLORODIBROMOMETHANE	ND	mg/L	0.0005		
		CHLOROETHANE	ND	mg/L	0.0005		
		2-CHLOROETHYL VINYL ETHER	ND	mg/L	0.0005		
		tert-BUTYLBENZENE	ND	mg/L	0.0005		
		CHLOROFORM	ND	mg/L	0.0005		
		CHLOROMETHANE	ND	mg/L	0.0005		
		1,2-DICHLOROENZENE	ND	mg/L	0.0005		
		1,3-DICHLOROENZENE	ND	mg/L	0.0005		
		1,4-DICHLOROENZENE	ND	mg/L	0.0005		
		1,1-DICHLOROETHANE	ND	mg/L	0.0005		
		1,2-DICHLOROETHANE	ND	mg/L	0.0005		
		1,1-DICHLOROETHYLENE	ND	mg/L	0.0005		
		1,2-DICHLOROPROPANE	ND	mg/L	0.0005		
		TRANS-1,3-DICHLOROPROPENE	ND	mg/L	0.0005		
		CIS-1,3-DICHLOROPROPENE	ND	mg/L	0.0005		

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# CERTIFICATE OF ANALYSIS

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SAMPLE/ANALYSIS	METHOD	PARAMETER	RESULTS	UNITS	DETECTION LIMIT	TECH	DATE/TIME
5102604-01	SAMPLE ID: Boiler Blowdown Grab Sample						
Volatile Organics by Gas Chromatography/Mass Spectroscopy							
VOG 624 Extended	EPA 824	TRANS-1,2-DICHLOROETHENE	ND	mg/L	0.0005	JRW	11/04/2005 10:48
		CIS-1,2-DICHLOROETHENE	ND	mg/L	0.0005		
		ETHYLBENZENE	ND	mg/L	0.0005		
		METHYL BROMIDE	ND	mg/L	0.0005		
		METHYL CHLORIDE	ND	mg/L	0.0005		
		METHYLENE CHLORIDE	ND	mg/L	0.0005		
		METHYL-TERT-BUTYL ETHER (MTBE)	ND	mg/L	0.0005		
		NAPHTHALENE	ND	mg/L	0.0005		
		STYRENE	ND	mg/L	0.0005		
		1,1,2,2-TETRACHLOROETHANE	ND	mg/L	0.0005		
		TETRACHLOROETHENE	ND	mg/L	0.0005		
		TOLUENE	ND	mg/L	0.0005		
		1,1,1-TRICHLOROETHANE	ND	mg/L	0.0005		
		1,1,2-TRICHLOROETHANE	ND	mg/L	0.0005		
		TRICHLOROETHYLENE	ND	mg/L	0.0005		
		TRICHLOROFLUORMETHANE	ND	mg/L	0.0005		
		VINYL CHLORIDE	ND	mg/L	0.0005		
		DIBROMOMETHANE	ND	mg/L	0.0005		
		1,2-DIBROMOETHANE	ND	mg/L	0.0005		
		1,1,1,2-TETRACHLOROETHANE	ND	mg/L	0.0005		
		M- & P-XYLENE	ND	mg/L	0.0005		
		O-XYLENE	ND	mg/L	0.0005		
		1,2,3-TRICHLOROPROPANE	ND	mg/L	0.0005		
		1,2-DIBROMO-3-CHLOROPROPANE	ND	mg/L	0.0005		
		Surrogate: Dibromofluoromethane	95.5 %	%RECOVERY	50-150		
		Surrogate: Fluorobenzene	70.9 %	%RECOVERY	50-150		
		Surrogate: Chlorobenzene-d5	151 %	%RECOVERY	50-150		
		Surrogate: 1,4-Dichlorobenzene-d4	89.1 %	%RECOVERY	50-150		

## Semi-Volatile Organics by Gas Chromatography/Mass Spectroscopy

ACID SEMIVOLS 625	EPA 625	PENTACHLOROPHENOL	ND	mg/L	0.0200	DM	10/27/2005 23:53
		Surrogate: Phenol-d6	32.1 %	%RECOVERY	20-150		
		Surrogate: 2,4,6-Tribromophenol	102 %	%RECOVERY	50-150		
B/N SEMIVOL 625		ACENAPHTHENE	ND	mg/L	0.00400	DM	10/27/2005 23:53
		ACENAPHTHYLENE	ND	mg/L	0.00400		
		a-TERPINEOL	ND	mg/L	0.00400		
		ANTHRACENE	ND	mg/L	0.00400		
		BENZIDINE	ND	mg/L	0.00800		
		BENZO(a)ANTHRACENE	ND	mg/L	0.00400		
		BENZO(a)PYRENE	ND	mg/L	0.00400		
		BENZO(k)FLUORANTHENE	ND	mg/L	0.00400		
		BENZO(g,h,i)PERYLENE	ND	mg/L	0.00400		
		BENZO(b)FLUORANTHENE	ND	mg/L	0.00400		
		BIS(2-CHLOROETHOXY)METHANE	ND	mg/L	0.00400		
		BIS(2-CHLOROETHYL)ETHER	ND	mg/L	0.00400		
		BIS(2-CHLOROISOPROPYL)ETHER	ND	mg/L	0.00400		
		BIS(2-ETHYLHEXYL)PHTHALATE	ND	mg/L	0.00400		
		BUTYL BENZYL PHTHALATE	ND	mg/L	0.00400		
		4-BROMOPHENYL PHENYL ETHER	ND	mg/L	0.00400		
		CARBAZOLE	ND	mg/L	0.00400		
		2-CHLORONAPHTHALENE	ND	mg/L	0.00400		
		4-CHLOROPHENYL PHENYL ETHER	ND	mg/L	0.00400		
		CHRYSENE	ND	mg/L	0.00400		
		N-DECANE	ND	mg/L	0.00400		
		DIBENZO(a,h)ANTHRACENE	ND	mg/L	0.00400		
		3,3-DICHLOROBENZIDINE	ND	mg/L	0.00800		

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SAMPLE/ ANALYSIS	METHOD	PARAMETER	RESULTS	UNITS	DETECTION LIMIT	TECH	DATE/TIME
5102604-01	SAMPLE ID: Boiler Blowdown Grab Sample						
Semi-Volatile Organics by Gas Chromatography/Mass Spectroscopy							
B/N SEMIVOL 625	EPA 625	1,2-DICHLOROBENZENE	ND	mg/L	0.00400	DM	10/27/2005 23:53
		1,3-DICHLOROBENZENE	ND	mg/L	0.00400		
		1,4-DICHLOROBENZENE	ND	mg/L	0.00400		
		DIETHYL PHTHALATE	ND	mg/L	0.00400		
		DIMETHYL PHTHALATE	ND	mg/L	0.00400		
		DI-N-BUTYL PHTHALATE	ND	mg/L	0.00400		
		DI-N-OCTYL PHTHALATE	ND	mg/L	0.00400		
		2,4-DINITROTOLUENE	ND	mg/L	0.00800		
		1,2-DIPHENYLHYDRAZINE (as AZOBENZENE)	ND	mg/L	0.00400		
		2,6-DINITROTOLUENE	ND	mg/L	0.00800		
		FLUORANTHENE	ND	mg/L	0.00400		
		FLUORENE	ND	mg/L	0.00400		
		HEXACHLOROBENZENE	ND	mg/L	0.00400		
		HEXACHLOROBUTADIENE	ND	mg/L	0.00400		
		HEXACHLOROCYCLOPENTADIENE	ND	mg/L	0.0200		
		HEXACHLOROETHANE	ND	mg/L	0.00400		
		INDENO(1,2,3-cd)PYRENE	ND	mg/L	0.00400		
		ISOPHORONE	ND	mg/L	0.00400		
		NAPHTHALENE	ND	mg/L	0.00400		
		NITROBENZENE	ND	mg/L	0.00400		
		N-NITROSODIMETHYLAMINE	ND	mg/L	0.00400		
		N-NITROSODIPHENYLAMINE	ND	mg/L	0.00400		
		N-NITROSO-DI-N-PROPYLAMINE	ND	mg/L	0.00400		
		N-OCTADECANE	ND	mg/L	0.00400		
		PHENANTHRENE	ND	mg/L	0.00400		
		PYRENE	ND	mg/L	0.00400		
		1,2,4-TRICHLOROBENZENE	ND	mg/L	0.00400		
		Surrogate: 2-Fluorobiphenyl	87.1 %	%RECOVERY	50-150		
		Surrogate: Nitrobenzene-D5	85.1 %	%RECOVERY	50-150		
		Surrogate: p-terphenyl-D14	99.4 %	%RECOVERY	50-150		

## Semi-Volatile Organics by Gas Chromatography/ECD

PESTICIDES 625	EPA 625	ALDRIN	ND	mg/L	0.00267	DM	10/27/2005 23:53
		ALPHA-BHC	ND	mg/L	0.00133		
		BETA-BHC	ND	mg/L	0.00267		
		GAMMA-BHC (LINDANE)	ND	mg/L	0.00133		
		DELTA-BHC	ND	mg/L	0.00267		
		4,4-DDD	ND	mg/L	0.00533		
		4,4-DDE	ND	mg/L	0.00267		
		CHLORDANE	ND	mg/L	0.00267		
		4,4-DDT	ND	mg/L	0.00533		
		DIELDRIN	ND	mg/L	0.00267		
		ENDOSULFAN I	ND	mg/L	0.00267		
		ENDOSULFAN II	ND	mg/L	0.00533		
		ENDOSULFAN SULFATE	ND	mg/L	0.00533		
		ENDRIN	ND	mg/L	0.00267		
		ENDRIN ALDEHYDE	ND	mg/L	0.00667		
		ENDRIN KETONE	ND	mg/L	0.00667		
		HEPTACHLOR	ND	mg/L	0.00267		
		HEPTACHLOR EPOXIDE	ND	mg/L	0.00267		
		ALPHA-CHLORDANE	ND	mg/L	0.00267		
		METHOXYCHLOR	ND	mg/L	0.00667		
		GAMMA-CHLORDANE	ND	mg/L	0.00267		
		TOXAPHENE	ND	mg/L	0.0533		

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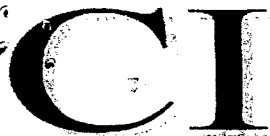
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# CERTIFICATE OF ANALYSIS

CLIENT: Koppers Industries, Inc.  
ATTN: T.J. Turner  
7540 NW St. Helens Road  
Portland OR, 97210-3663

PROJECT NAME: Boiler Blowdown Water Test

PHONE: (503) 286-3681

FAX: (503) 285-2831

SUBMITTED: 10/26/05 12:05

REPORT DATE: 11/08/05 15:56

REPORT NUMBER: 5102604

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CI SAMPLE	CLIENTS ID#	DATE	TIME	MATRIX
5102604-01	Boiler Blowdown Grab Sample	10/26/2005	1000	Water

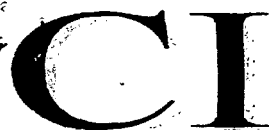
SAMPLE/ ANALYSIS	METHOD	PARAMETER	RESULTS	UNITS	DETECTION LIMIT	TECH	DATE/TIME
<b>5102604-01 SAMPLE ID: Boiler Blowdown Grab Sample</b>							
<b>General Bench Analysis</b>							
CYANIDE, TOTAL	SM 4500-CN-B-C	CYANIDE	ND	mg/L	0.0030	MES	11/03/2005 10:11
O & G, NP (SGT-HEM)	EPA 1664	NONPOLAR OIL & GREASE	ND	mg/L	2	JRW	11/07/2005 15:12
SULFIDE	EPA 378.1	SULFIDE	ND	mg/L	1.0	MES	11/01/2005 15:56
<b>Total Mercury by Cold Vapor Atomic Fluorescence</b>							
MERCURY CV AF	EPA 245.7/1631	MERCURY	0.00011	mg/L	0.000050	KEL	11/03/2005 12:24
<b>Total Metals by Inductively Coupled Plasma</b>							
ARSENIC - ICP	EPA 200.7/6010B	ARSENIC	ND	mg/L	0.010	KEL	10/27/2005 14:08
CADMIUM - ICP		CADMIUM	ND	mg/L	0.003	KEL	10/27/2005 14:08
CHROMIUM - ICP		CHROMIUM	ND	mg/L	0.005	KEL	10/27/2005 14:08
COPPER - ICP		COPPER	1.0	mg/L	0.005	KEL	10/27/2005 15:58
LEAD - ICP		LEAD	0.030	mg/L	0.005	KEL	10/27/2005 14:08
MOLYBDENUM - ICP		MOLYBDENUM	ND	mg/L	0.005	KEL	10/27/2005 15:58
NICKEL - ICP		NICKEL	ND	mg/L	0.020	KEL	10/27/2005 15:58
SELENIUM - ICP		SELENIUM	ND	mg/L	0.10	KEL	10/27/2005 14:08
SILVER - ICP		SILVER	ND	mg/L	0.010	KEL	10/27/2005 15:36
ZINC - ICP		ZINC	0.39	mg/L	0.003	KEL	10/27/2005 15:58
<b>Volatile Organics by Gas Chromatography/Mass Spectroscopy</b>							
VOC 624 Extended	EPA 624	ACROLEIN	ND	mg/L	0.100	JRW	11/04/2005 10:48
		ACRYLONITRILE	ND	mg/L	0.0100		
		BENZENE	ND	mg/L	0.0005		
		BROMOCHLOROMETHANE	ND	mg/L	0.0005		
		BROMODICHLOROMETHANE	ND	mg/L	0.0005		
		BROMOFORM	ND	mg/L	0.0005		
		CARBON TETRACHLORIDE	ND	mg/L	0.0005		
		CHLOROBENZENE	ND	mg/L	0.0005		
		CHLORODIBROMOMETHANE	ND	mg/L	0.0005		
		CHLOROETHANE	ND	mg/L	0.0005		
		2-CHLOROETHYL VINYL ETHER	ND	mg/L	0.0005		
		tert-BUTYLBENZENE	ND	mg/L	0.0005		
		CHLOROFORM	ND	mg/L	0.0005		
		CHLOROMETHANE	ND	mg/L	0.0005		
		1,2-DICHLOROBENZENE	ND	mg/L	0.0005		
		1,3-DICHLOROBENZENE	ND	mg/L	0.0005		
		1,4-DICHLOROBENZENE	ND	mg/L	0.0005		
		1,1-DICHLOROETHANE	ND	mg/L	0.0005		
		1,2-DICHLOROETHANE	ND	mg/L	0.0005		
		1,1-DICHLOROETHYLENE	ND	mg/L	0.0005		
		1,2-DICHLOROPROPANE	ND	mg/L	0.0005		
		TRANS-1,3-DICHLOROPROPENE	ND	mg/L	0.0005		
		CIS-1,3-DICHLOROPROPENE	ND	mg/L	0.0005		

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SAMPLE/ ANALYSIS	METHOD	PARAMETER	RESULTS	UNITS	DETECTION LIMIT	TECH	DATE/TIME
5102604-01	SAMPLE ID: Boiler Blowdown Grab Sample						
Volatile Organics	by Gas Chromatography/Mass Spectroscopy						
VOC 624 Extended	EPA 624	TRANS-1,2-DICHLOROETHENE	ND	mg/L	0.0005	JRW	11/04/2005 10:48
		CIS-1,2-DICHLOROETHENE	ND	mg/L	0.0005		
		ETHYLBENZENE	ND	mg/L	0.0005		
		METHYL BROMIDE	ND	mg/L	0.0005		
		METHYL CHLORIDE	ND	mg/L	0.0005		
		METHYLENE CHLORIDE	ND	mg/L	0.0005		
		METHYL-TERT-BUTYL ETHER (MTBE)	ND	mg/L	0.0005		
		NAPHTHALENE	ND	mg/L	0.0005		
		STYRENE	ND	mg/L	0.0005		
		1,1,2,2-TETRACHLOROETHANE	ND	mg/L	0.0005		
		TETRACHLOROETHENE	ND	mg/L	0.0005		
		TOLUENE	ND	mg/L	0.0005		
		1,1,1-TRICHLOROETHANE	ND	mg/L	0.0005		
		1,1,2-TRICHLOROETHANE	ND	mg/L	0.0005		
		TRICHLOROETHYLENE	ND	mg/L	0.0005		
		TRICHLOROFLUORMETHANE	ND	mg/L	0.0005		
		VINYL CHLORIDE	ND	mg/L	0.0005		
		DIBROMOMETHANE	ND	mg/L	0.0005		
		1,2-DIBROMOETHANE	ND	mg/L	0.0005		
		1,1,1,2-TETRACHLOROETHANE	ND	mg/L	0.0005		
		M- & P-XYLENE	ND	mg/L	0.0005		
		O-XYLENE	ND	mg/L	0.0005		
		1,2,3-TRICHLOROPROPANE	ND	mg/L	0.0005		
		1,2-DIBROMO-3-CHLOROPROPANE	ND	mg/L	0.0005		
		Surrogate: Dibromofluoromethane	95.5 %	%RECOVERY	50-150		
		Surrogate: Fluorobenzene	70.9 %	%RECOVERY	50-150		
		Surrogate: Chlorobenzene-d5	151 %	%RECOVERY	50-150		
		Surrogate: 1,4-Dichlorobenzene-d4	89.1 %	%RECOVERY	50-150		
Semi-Volatile Organics by Gas Chromatography/Mass Spectroscopy							
ACID SEMIVOLS 625	EPA 625	PENTACHLOROPHENOL	ND	mg/L	0.0200	DM	10/27/2005 23:53
		Surrogate: Phenol-d6	32.1 %	%RECOVERY	20-150		
		Surrogate: 2,4,6-Tribromophenol	102 %	%RECOVERY	50-150		
B/N SEMIVOL 625		ACENAPHTHENE	ND	mg/L	0.00400	DM	10/27/2005 23:53
		ACENAPHTHYLENE	ND	mg/L	0.00400		
		a-TERPINEOL	ND	mg/L	0.00400		
		ANTHRACENE	ND	mg/L	0.00400		
		BENZIDINE	ND	mg/L	0.00800		
		BENZO(a)ANTHRACENE	ND	mg/L	0.00400		
		BENZO(a)PYRENE	ND	mg/L	0.00400		
		BENZO(k)FLUORANTHENE	ND	mg/L	0.00400		
		BENZO(g,h,i)PERYLENE	ND	mg/L	0.00400		
		BENZO(b)FLUORANTHENE	ND	mg/L	0.00400		
		BIS(2-CHLOROETHOXY)METHANE	ND	mg/L	0.00400		
		BIS(2-CHLOROETHYL)ETHER	ND	mg/L	0.00400		
		BIS(2-CHLOROISOPROPYL)ETHER	ND	mg/L	0.00400		
		BIS(2-ETHYLHEXYL)PHTHALATE	ND	mg/L	0.00400		
		BUTYL BENZYL PHTHALATE	ND	mg/L	0.00400		
		4-BROMOPHENYL PHENYL ETHER	ND	mg/L	0.00400		
		CARBAZOLE	ND	mg/L	0.00400		
		2-CHLORONAPHTHALENE	ND	mg/L	0.00400		
		4-CHLOROPHENYL PHENYL ETHER	ND	mg/L	0.00400		
		CHRYSENE	ND	mg/L	0.00400		
		N-DECANE	ND	mg/L	0.00400		
		DIBENZO(a,h)ANTHRACENE	ND	mg/L	0.00400		
		3,3-DICHLOROBENZIDINE	ND	mg/L	0.00800		

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SAMPLE/ ANALYSIS	METHOD	PARAMETER	RESULTS	UNITS	DETECTION LIMIT	TECH	DATE/TIME
5102604-01	SAMPLE ID: Boiler Blowdown Grab Sample						
Semi-Volatile Organics by Gas Chromatography/Mass Spectroscopy							
B/N SEMVOL 625	EPA 625	1,2-DICHLOROBENZENE	ND	mg/L	0.00400	DM	10/27/2005 23:53
		1,3-DICHLOROBENZENE	ND	mg/L	0.00400		
		1,4-DICHLOROBENZENE	ND	mg/L	0.00400		
		DIETHYL PHTHALATE	ND	mg/L	0.00400		
		DIMETHYL PHTHALATE	ND	mg/L	0.00400		
		DI-N-BUTYL PHTHALATE	ND	mg/L	0.00400		
		DI-N-OCTYL PHTHALATE	ND	mg/L	0.00400		
		2,4-DINITROTOLUENE	ND	mg/L	0.00800		
		1,2-DIPHENYLHYDRAZINE (as AZOBENZENE)	ND	mg/L	0.00400		
		2,6-DINITROTOLUENE	ND	mg/L	0.00800		
		FLUORANTHENE	ND	mg/L	0.00400		
		FLUORENE	ND	mg/L	0.00400		
		HEXACHLOROBENZENE	ND	mg/L	0.00400		
		HEXACHLOROBUTADIENE	ND	mg/L	0.00400		
		HEXACHLOROCYCLOPENTADIENE	ND	mg/L	0.0200		
		HEXACHLOROETHANE	ND	mg/L	0.00400		
		INDENO(1,2,3-cd)PYRENE	ND	mg/L	0.00400		
		ISOPHORONE	ND	mg/L	0.00400		
		NAPHTHALENE	ND	mg/L	0.00400		
		NITROBENZENE	ND	mg/L	0.00400		
		N-NITROSODIMETHYLAMINE	ND	mg/L	0.00400		
		N-NITROSODIPHENYLAMINE	ND	mg/L	0.00400		
		N-NITROSO-DI-N-PROPYLAMINE	ND	mg/L	0.00400		
		N-OCTADECANE	ND	mg/L	0.00400		
		PHENANTHRENE	ND	mg/L	0.00400		
		PYRENE	ND	mg/L	0.00400		
		1,2,4-TRICHLOROBENZENE	ND	mg/L	0.00400		
		Surrogate: 2-Fluorobiphenyl	87.1 %	%RECOVERY	50-150		
		Surrogate: Nitrobenzene-D5	85.1 %	%RECOVERY	50-150		
		Surrogate: p-terphenyl-D14	99.4 %	%RECOVERY	50-150		
Semi-Volatile Organics by Gas Chromatography/ECD							
PESTICIDES 625	EPA 625	ALDRIN	ND	mg/L	0.00267	DM	10/27/2005 23:53
		ALPHA-BHC	ND	mg/L	0.00133		
		BETA-BHC	ND	mg/L	0.00267		
		GAMMA-BHC (LINDANE)	ND	mg/L	0.00133		
		DELTA-BHC	ND	mg/L	0.00267		
		4,4-DDD	ND	mg/L	0.00533		
		4,4-DDE	ND	mg/L	0.00267		
		CHLORDANE	ND	mg/L	0.00267		
		4,4-DDT	ND	mg/L	0.00533		
		DIELDRIN	ND	mg/L	0.00267		
		ENDOSULFAN I	ND	mg/L	0.00267		
		ENDOSULFAN II	ND	mg/L	0.00533		
		ENDOSULFAN SULFATE	ND	mg/L	0.00533		
		ENDRIN	ND	mg/L	0.00267		
		ENDRIN ALDEHYDE	ND	mg/L	0.00667		
		ENDRIN KETONE	ND	mg/L	0.00667		
		HEPTACHLOR	ND	mg/L	0.00267		
		HEPTACHLOR EPOXIDE	ND	mg/L	0.00267		
		ALPHA-CHLORDANE	ND	mg/L	0.00267		
		METHOXYCHLOR	ND	mg/L	0.00667		
		GAMMA-CHLORDANE	ND	mg/L	0.00267		
		TOXAPHENE	ND	mg/L	0.0533		

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# CERTIFICATE OF ANALYSIS

REPORT DATE: 11/08/05 16:23

REPORT NUMBER: 5102604

PAGE: 4 OF 4

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## CERTIFICATE OF ANALYSIS

REPORT DATE: 11/18/05 15:59

REPORT NUMBER: 5102604

PAGE: 4 OF 4

SAMPLE/ ANALYSIS	METHOD	PARAMETER	RESULTS	UNITS	DETECTION LIMIT	TECH	DATE/TIME
<b>5102604-01</b> <b>SAMPLE ID: Boiler Blowdown Grab Sample</b>							
Semi-Volatile Organics by Gas Chromatography/ECD							
PESTICIDES 625	EPA 625	ENDRIN KETONE	ND	mg/L	0.00667	DM	10/27/2005 23:53
		HEPTACHLOR	ND	mg/L	0.00267		
		HEPTACHLOR EPOXIDE	ND	mg/L	0.00267		
		ALPHA-CHLORDANE	ND	mg/L	0.00267		
		METHOXYCHLOR	ND	mg/L	0.00667		
		GAMMA-CHLORDANE	ND	mg/L	0.00267		
		TOXAPHENE	ND	mg/L	0.0533		
<b>5102604-02</b> <b>SAMPLE ID: Boiler Blowdown Grab Sample</b>							
General Bench Analysis							
PH	EPA 150.1/9040	pH	10.5	SU		MES	11/16/2005 17:06
		TEMPERATURE (C)	21.8	SU			

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# CERTIFICATE OF ANALYSIS

CLIENT: Koppers Industries, Inc.  
7540 NW St. Helens Road  
Portland OR, 97210-3663

ATTN: Amos Kamerer

PHONE: (503) 286-3681

FAX: (503) 285-2831

PROJECT NAME: NPDES Permit Renewal Tests

ORIGINAL

SUBMITTED: 11/19/03 10:30

REPORT DATE: 12/15/03 16:33

REPORT NUMBER: 3111915

PAGE: 1 OF 5

CI SAMPLE	CLIENTS ID#	DATE	TIME	MATRIX
3111915-01	Stormwater Tanks	11/19/2003	1015	Water

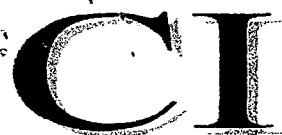
  

SAMPLE/ ANALYSIS	METHOD	PARAMETER	RESULTS	UNITS	DETECTION LIMIT	TECH	DATE/TIME
3111915-01 SAMPLE ID: Stormwater Tanks							
General Bench Analysis							
AMMONIA DISTILLATION	EPA 350.2	AMMONIA NITROGEN	6.6	mg/L	0.20	JRW	12/05/2003 10:26
BOD	EPA 405.1	5-DAY BOD TEST	ND	mg/L	5.0	JRW	11/25/2003 15:22
COD	EPA 410.4	CHEMICAL OXYGEN DEMAND	36	mg/L	10	JRW	12/04/2003 11:25
COLOR - EPA	EPA 110.2	COLOR	5.0	COLOR UNIT		JRW	12/03/2003 11:04
CYANIDE, TOTAL	SM 4500-CN-B-C	CYANIDE	ND	mg/L	0.0030	JRW	12/02/2003 16:03
FLUORIDE - EPA	EPA 340.2	FLUORIDE	0.11	mg/L	0.10	JRW	12/04/2003 10:22
NITRATE NITROGEN	SM 4500 NO3-D	NITRATE NITROGEN	3.3	mg/L	0.10	JRW	12/03/2003 13:41
O & G, TOTAL (HEM)	EPA 1664	TOTAL OIL AND GREASE	ND	mg/L	2.0	PA	11/20/2003 13:27
PH	EPA 150.1/9040	pH	6.33	SU		JRW	11/20/2003 09:39
		TEMPERATURE (C)	14.2	SU			
PHENOLS, TOTAL	EPA 420.1	TOTAL RECOVERABLE PHENOLICS	0.066	mg/L	0.050	JRW	12/08/2003 11:28
PHOSPHORUS, TOTAL	EPA 365.3	PHOSPHORUS	0.37	mg/L	0.010	JRW	12/03/2003 14:19
RESIDUAL CHLORINE 1	EPA 330.4	RESIDUAL CHLORINE	ND	mg/L	0.010	DR	11/19/2003 16:41
SULFIDE	EPA 376.1	SULFIDE	ND	mg/L	1.0	JRW	12/01/2003 11:58
SULFITE	EPA 377.1	SULFITE	ND	mg/L	1.0	DR	11/20/2003 08:37
SURFACTANTS (MBAS)	SM 5540 C	MBAS, CALCULATED AS LAS	ND	mg LAS/L	0.020	DR	12/05/2003 08:29
SUSPENDED SOLIDS	EPA 160.2	TOTAL SUSPENDED SOLIDS	9.0	mg/L	1.0	JRW	12/02/2003 09:35
TKN	SM4500-N, C	TOTAL KJELDAHL NITROGEN	1.1	mg/L	0.20	JRW	12/05/2003 14:25
TOC	EPA 415.1	TOTAL ORGANIC CARBON	3.2	mg/L	0.50	DR	12/05/2003 08:29
Total Mercury by Cold Vapor Atomic Absorption							
MERCURY - CVAA	EPA 245.1/7470A	MERCURY	1.10	ug/L	0.500	DR	11/24/2003 11:24
Total Metals by Inductively Coupled Plasma							
ALUMINUM - ICP	EPA 200.7/6010B	ALUMINUM	ND	mg/L	0.020	BKB	12/10/2003 07:52
ANTIMONY - ICP		ANTIMONY	ND	mg/L	0.050	BKB	12/10/2003 07:52
ARSENIC - ICP		ARSENIC	ND	mg/L	0.030	BKB	12/10/2003 07:52
BARIUM - ICP		BARIUM	0.032	mg/L	0.002	BKB	12/10/2003 07:52
BERYLLIUM - ICP		BERYLLIUM	ND	mg/L	0.0010	BKB	12/10/2003 07:52
BORON-ICP		BORON	0.033	mg/L	0.010	BKB	12/10/2003 07:52
CADMIUM - ICP		CADMIUM	ND	mg/L	0.001	BKB	12/10/2003 07:52
CHROMIUM - ICP		CHROMIUM	0.002	mg/L	0.001	BKB	12/10/2003 07:52
COBALT - ICP		COBALT	ND	mg/L	0.010	BKB	12/10/2003 07:52
COPPER - ICP		COPPER	0.018	mg/L	0.003	BKB	12/10/2003 07:52

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REPORT NUMBER: 3111915

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SAMPLE/ ANALYSIS	METHOD	PARAMETER	RESULTS	UNITS	DETECTION LIMIT	TECH	DATE/TIME
3111915-01	SAMPLE ID: Stormwater Tanks						
Total Metals by Inductively Coupled Plasma							
IRON - ICP	EPA 200.7/6010B	IRON	ND	mg/L	0.20	BKB	12/10/2003 07:52
LEAD - ICP		LEAD	0.013	mg/L	0.009	BKB	12/10/2003 07:52
MAGNESIUM - ICP		MAGNESIUM	ND	mg/L	0.040	BKB	12/10/2003 07:52
MANGANESE - ICP		MANGANESE	ND	mg/L	0.002	BKB	12/10/2003 07:52
MOLYBDENUM - ICP		MOLYBDENUM	ND	mg/L	0.005	BKB	12/10/2003 07:52
NICKEL - ICP		NICKEL	ND	mg/L	0.004	BKB	12/10/2003 07:52
SELENIUM - ICP		SELENIUM	6.9	mg/L	0.030	BKB	12/10/2003 07:52
SILVER - ICP		SILVER	ND	mg/L	0.010	BKB	12/10/2003 07:52
THALLIUM - ICP		THALLIUM	ND	mg/L	0.070	BKB	12/10/2003 07:52
TIN - ICP		TIN	ND	mg/L	0.040	BKB	12/10/2003 07:52
TITANIUM - ICP		TITANIUM	ND	mg/L	0.050	BKB	12/10/2003 07:52
ZINC - ICP		ZINC	6.3	mg/L	0.001	DR	12/15/2003 16:28

## Volatile Organics by Gas Chromatography/Mass Spectroscopy

VOC 624 Extended	EPA 624	ACROLEIN	ND	mg/L	0.1000	PA	11/21/2003 20:15
		ACRYLONITRILE	ND	mg/L	0.1000		
		BENZENE	0.0461	mg/L	0.0005		
		BROMOCHLOROMETHANE	ND	mg/L	0.0005		
		BROMODICHLOROMETHANE	ND	mg/L	0.0005		
		BROMOFORM	ND	mg/L	0.0005		
		CARBON TETRACHLORIDE	ND	mg/L	0.0005		
		CHLOROBENZENE	ND	mg/L	0.0005		
		CHLORODIBROMOMETHANE	ND	mg/L	0.0005		
		CHLOROETHANE	ND	mg/L	0.0005		
		2-CHLOROETHYL VINYL ETHER	ND	mg/L	0.0005		
		tert-BUTYLBENZENE	ND	mg/L	0.0005		
		CHLOROFORM	ND	mg/L	0.0005		
		CHLOROMETHANE	ND	mg/L	0.0005		
		DICHLOROBROMOMETHANE	ND	mg/L	0.0005		
		1,2-DICHLOROBENZENE	ND	mg/L	0.0005		
		1,3-DICHLOROBENZENE	ND	mg/L	0.0005		
		1,4-DICHLOROBENZENE	ND	mg/L	0.0005		
		1,1-DICHLOROETHANE	ND	mg/L	0.0005		
		1,2-DICHLOROETHANE	ND	mg/L	0.0005		
		1,1-DICHLOROETHYLENE	ND	mg/L	0.0005		
		1,2-DICHLOROPROPANE	ND	mg/L	0.0005		
		TRANS-1,3-DICHLOROPROPENE	ND	mg/L	0.0005		
		CIS-1,3-DICHLOROPROPENE	ND	mg/L	0.0005		
		TRANS-1,2-DICHLOROETHENE	ND	mg/L	0.0005		
		CIS-1,2-DICHLOROETHENE	ND	mg/L	0.0005		
		ETHYLBENZENE	0.0024	mg/L	0.0005		
		METHYL BROMIDE	ND	mg/L	0.0005		
		METHYL CHLORIDE	ND	mg/L	0.0005		
		METHYLENE CHLORIDE	ND	mg/L	0.0005		
		METHYL-TERT-BUTYL ETHER (MTBE)	ND	mg/L	0.0005		
		NAPHTHALENE	0.0265	mg/L	0.0005		
		STYRENE	0.0035	mg/L	0.0005		
		1,1,2,2-TETRACHLOROETHANE	ND	mg/L	0.0005		
		TETRACHLOROETHENE	ND	mg/L	0.0005		
		TOLUENE	0.0415	mg/L	0.0005		

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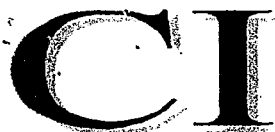
REPORT NUMBER: 3111915

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SAMPLE/ ANALYSIS	METHOD	PARAMETER	RESULTS	UNITS	DETECTION LIMIT	TECH	DATE/TIME
3111915-01	SAMPLE ID: Stormwater Tanks						
Volatile Organics by Gas Chromatography/Mass Spectroscopy							
VOC 624 Extended	EPA 624	1,1,1-TRICHLOROETHANE	ND	mg/L	0.0005	PA	11/21/2003 20:15
		1,1,2-TRICHLOROETHANE	ND	mg/L	0.0005		
		TRICHLOROETHYLENE	ND	mg/L	0.0005		
		TRICHLOROFLUORMETHANE	ND	mg/L	0.0005		
		VINYL CHLORIDE	ND	mg/L	0.0005		
		DIBROMOMETHANE	ND	mg/L	0.0005		
		1,2-DIBROMOETHANE	ND	mg/L	0.0005		
		1,1,1,2-TETRACHLOROETHANE	ND	mg/L	0.0005		
		M- & P-XYLENE	0.0100	mg/L	0.0005		
		O-XYLENE	0.0050	mg/L	0.0005		
		1,2,3-TRICHLOROPROPANE	ND	mg/L	0.0005		
		1,2-DIBROMO-3-CHLOROPROPANE	ND	mg/L	0.0005		
		Surrogate: Dibromofluoromethane	102 %	%RECOVERY	50-150		
		Surrogate: Fluorobenzene	99.9 %	%RECOVERY	50-150		
		Surrogate: Chlorobenzene-d5	100 %	%RECOVERY	50-150		
		Surrogate: 1,4-Dichlorobenzene-d4	92.5 %	%RECOVERY	50-150		
Semi-Volatile Organics by Gas Chromatography/Mass Spectroscopy							
ACID SEMIVOLS 625	EPA 625	2-CHLOROPHENOL	ND	mg/L	0.0050	ZZZ	11/26/2003 23:58
		P-CHLORO-M-CRESOL	ND	mg/L	0.0050		
		2,4-DICHLOROPHENOL	ND	mg/L	0.0050		
		2,4-DIMETHYLPHENOL	ND	mg/L	0.0050		
		2,4-DINITROPHENOL	ND	mg/L	0.0050		
		2-NITROPHENOL	ND	mg/L	0.0050		
		4-NITROPHENOL	ND	mg/L	0.0050		
		PHENOL	ND	mg/L	0.0050		
		PENTACHLOROPHENOL	ND	mg/L	0.025		
		2,4,5-TRICHLOROPHENOL	ND	mg/L	0.0050		
		2,4,6-TRICHLOROPHENOL	ND	mg/L	0.0050		
		4,6-DINITRO-O-CRESOL	ND	mg/L	0.025		
		Surrogate: Phenol-d6	32.5 %	%RECOVERY	20-150		
		Surrogate: 2,4,6-Tribromophenol	105 %	%RECOVERY	50-150		
B/N SEMIVOL 625		ACENAPHTHENE	0.0088	mg/L	0.0050	DM	11/26/2003 23:58
		ACENAPHTHYLENE	ND	mg/L	0.0050		
		a-TERPINEOL	ND	mg/L	0.0050		
		ANTHRACENE	0.0055	mg/L	0.0050		
		BENZIDINE	ND	mg/L	0.010		
		BENZO(a)ANTHRACENE	0.0099	mg/L	0.0050		
		BENZO(a)PYRENE	0.022	mg/L	0.0050		
		BENZO(k)FLUORANTHENE	ND	mg/L	0.0050		
		BENZO(g,h,i)PERYLENE	0.016	mg/L	0.0050		
		BENZO(b)FLUORANTHENE	ND	mg/L	0.0050		
		BIS(2-CHLOROETHOXY)METHANE	ND	mg/L	0.0050		
		BIS(2-CHLOROETHYL)ETHER	ND	mg/L	0.0050		
		BIS(2-CHLOROISOPROPYL)ETHER	ND	mg/L	0.0050		
		BIS(2-ETHYLHEXYL)PHTHALATE	ND	mg/L	0.0050		
		BUTYL BENZYL PHTHALATE	ND	mg/L	0.0050		
		4-BROMOPHENYL PHENYL ETHER	ND	mg/L	0.0050		
		CARBAZOLE	ND	mg/L	0.0050		
		2-CHLORONAPHTHALENE	ND	mg/L	0.0050		
		4-CHLOROPHENYL PHENYL ETHER	ND	mg/L	0.0050		
		CHRYSENE	0.017	mg/L	0.0050		

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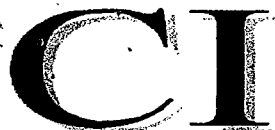
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SAMPLE/ ANALYSIS	METHOD	PARAMETER	RESULTS	UNITS	DETECTION LIMIT	TECH	DATE/TIME
3111915-01	SAMPLE ID: Stormwater Tanks						
Semi-Volatile Organics by Gas Chromatography/Mass Spectroscopy							
		N-DECANE	ND	mg/L	0.0050		
		DIBENZO(a,h)ANTHRACENE	ND	mg/L	0.0050		
		3,3-DICHLOROBENZIDINE	ND	mg/L	0.010		
		1,2-DICHLOROBENZENE	ND	mg/L	0.0050		
		1,3-DICHLOROBENZENE	ND	mg/L	0.0050		
		1,4-DICHLOROBENZENE	ND	mg/L	0.0050		
		DIETHYL PHTHALATE	ND	mg/L	0.0050		
		DIMETHYL PHTHALATE	ND	mg/L	0.0050		
		DI-N-BUTYL PHTHALATE	ND	mg/L	0.0050		
		DI-N-OCTYL PHTHALATE	ND	mg/L	0.0050		
		2,4-DINITROTOLUENE	ND	mg/L	0.010		
		1,2-DIPHENYLHYDRAZINE (as AZOBENZENE)	ND	mg/L	0.0050		
		2,6-DINITROTOLUENE	ND	mg/L	0.010		
		FLUORANTHENE	0.028	mg/L	0.0050		
		FLUORENE	0.0061	mg/L	0.0050		
		HEXACHLOROBENZENE	ND	mg/L	0.0050		
		HEXACHLOROBUTADIENE	ND	mg/L	0.0050		
		HEXACHLOROCYCLOPENTADIENE	ND	mg/L	0.025		
		HEXACHLOROETHANE	ND	mg/L	0.0050		
		INDENO(1,2,3-cd)PYRENE	0.013	mg/L	0.0050		
		ISOPHORONE	ND	mg/L	0.0050		
		NAPHTHALENE	0.022	mg/L	0.0050		
		NITROBENZENE	ND	mg/L	0.0050		
		N-NITROSODIMETHYLAMINE	ND	mg/L	0.0050		
		N-NITROSODIPHENYLAMINE	ND	mg/L	0.0050		
		N-NITROSO-DI-N-PROPYLAMINE	ND	mg/L	0.0050		
		N-OCTADECANE	ND	mg/L	0.0050		
		PHENANTHRENE	0.023	mg/L	0.0050		
		PYRENE	0.023	mg/L	0.0050		
		1,2,4-TRICHLOROBENZENE	ND	mg/L	0.0050		
		Surrogate: 2-Fluorobiphenyl	112 %	%RECOVERY	50-150		
		Surrogate: Nitrobenzene-D5	129 %	%RECOVERY	50-150		
		Surrogate: p-terphenyl-D14	95.7 %	%RECOVERY	50-150		
Semi-Volatile Organics by Gas Chromatography/ECD							
PCBs 625	EPA 625 (SCAN)	AROCHLOR 1016	ND	mg/L	0.0028	DM	12/03/2003 15:51
		AROCHLOR 1221	ND	mg/L	0.0028		
		AROCHLOR 1232	ND	mg/L	0.0028		
		AROCHLOR 1242	ND	mg/L	0.0028		
		AROCHLOR 1248	ND	mg/L	0.0028		
		AROCHLOR 1254	ND	mg/L	0.0028		
		AROCHLOR 1260	ND	mg/L	0.0028		
PESTICIDES 625	EPA 625 (SIM)	ALDRIN	ND	mg/L	0.0040	DM	11/27/2003 18:21
		ALPHA-BHC	ND	mg/L	0.0020		
		BETA-BHC	ND	mg/L	0.0040		
		GAMMA-BHC (LINDANE)	ND	mg/L	0.0020		
		DELTA-BHC	ND	mg/L	0.0040		
		4,4-DDD	ND	mg/L	0.0080		
		4,4-DDE	ND	mg/L	0.0040		
		CHLORDANE	ND	mg/L	0.0040		
		4,4-DDT	ND	mg/L	0.0080		

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REPORT DATE: 12/15/03 16:33

REPORT NUMBER: 3111915

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SAMPLE/ ANALYSIS	METHOD	PARAMETER	RESULTS	UNITS	DETECTION LIMIT	TECH	DATE/TIME
3111915-01	SAMPLE ID: Stormwater Tanks						
Semi-Volatile Organics by Gas Chromatography/ECD							
PESTICIDES 625	EPA 625 (SIM)	DIELDRIN	ND	mg/L	0.0040	DM	11/27/2003 18:21
		ENDOSULFAN I	ND	mg/L	0.0040		
		ENDOSULFAN II	ND	mg/L	0.0080		
		ENDOSULFAN SULFATE	ND	mg/L	0.0080		
		ENDRIN	ND	mg/L	0.0040		
		ENDRIN ALDEHYDE	ND	mg/L	0.010		
		ENDRIN KETONE	ND	mg/L	0.010		
		HEPTACHLOR	ND	mg/L	0.0040		
		HEPTACHLOR EPOXIDE	ND	mg/L	0.0040		
		METHOXYCHLOR	ND	mg/L	0.010		
		TOXAPHENE	ND	mg/L	0.080		

## Subcontracted Analysis

BROMIDE - IC	EPA 300.0	BROMIDE	ND	mg/L	0.050	DR	12/15/2003 16:05
FECAL COLIFORM	SM 9222 D	FECAL COLIFORM	490	CFU/100 ml	2.0	DR	11/20/2003 17:00
SULFATE- IC	EPA 300.0	SULFATE	5.8	mg/L	0.10	DR	12/10/2003 08:32

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# COLUMBIA INSPECTION, INC.

U.S Customs Approved Gaugers  
Petroleum and Environmental Laboratory  
Tank Calibrations

**INVOICE**

**Invoice Number:** 5312074

**Invoice Date:** 12/15/03

Page 1 of 3

071

**Koppers Industries, Inc.**  
7540 NW St. Helens Road  
Portland, OR 97210-3663  
Attn: Amos Kamerer

**PO Number**

NA

**Project**

NPDES Permit Renewal Tests

**Received**

11/19/03

**Work Order(s)**

3111915

**Client**

Koppers Industries, Inc.

**Project Number**

[none]

**Comments**

QUANTITY	ANALYSIS/DESCRIPTION	MATRIX	UNIT COST	EXTENDED COST
----------	----------------------	--------	-----------	---------------

COLUMBIA INSPECTION, INC 7133 N. Lombard, Portland, OR 97203 Phone:(503) 286-9464 Fax:(503) 286-5355 E-mail:lab@ColumbiaInspection.com

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***Terms - Net 15 Days***

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PO Box 83569, St. Johns Station  
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Koppers001418

071

**Koppers Industries, Inc.**

7540 NW St. Helens Road

Portland, OR 97210-3663

Attn: Amos Kamerer

**PO Number**

NA

**Project**

NPDES Permit Renewal Tests

**Received**

11/19/03

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3111915

**Client**

Koppers Industries, Inc.

**Project Number**

[none]

**Comments**

QUANTITY	ANALYSIS/DESCRIPTION	MATRIX	UNIT COST	EXTENDED COST
1	ALUMINUM - ICP [10 day]	Water	\$15.00	\$15.00
1	AMMONIA DISTILLATION [10 day]	Water	\$45.00	\$45.00
1	ANTIMONY - ICP [10 day]	Water	\$15.00	\$15.00
1	ARSENIC - ICP [10 day]	Water	\$15.00	\$15.00
1	B/N/A 625 TTO [10 day]	Water	\$395.00	\$395.00
1	BARIUM - ICP [10 day]	Water	\$15.00	\$15.00
1	BERYLLIUM - ICP [10 day]	Water	\$15.00	\$15.00
1	BOD [10 day]	Water	\$45.00	\$45.00
1	BORON-ICP [10 day]	Water	\$15.00	\$15.00
1	BROMIDE - IC [10 day]	Water	\$30.00	\$30.00
1	CADMIUM - ICP [10 day]	Water	\$15.00	\$15.00
1	CHROMIUM - ICP [10 day]	Water	\$15.00	\$15.00
1	COBALT - ICP [10 day]	Water	\$15.00	\$15.00
1	COD [10 day]	Water	\$35.00	\$35.00
1	COLOR - EPA [10 day]	Water	\$25.00	\$25.00
1	COPPER - ICP [10 day]	Water	\$15.00	\$15.00
1	CYANIDE, TOTAL [10 day]	Water	\$50.00	\$50.00
1	DIGESTION - 3015 [10 day]	Water	\$25.00	\$25.00
1	FECAL COLIFORM [10 day]	Water	\$35.00	\$35.00
1	FLUORIDE - EPA [10 day]	Water	\$25.00	\$25.00
1	IRON - ICP [10 day]	Water	\$15.00	\$15.00
1	LEAD - ICP [10 day]	Water	\$15.00	\$15.00
1	MAGNESIUM - ICP [10 day]	Water	\$15.00	\$15.00
1	MANGANESE - ICP [10 day]	Water	\$15.00	\$15.00
1	MERCURY - CVAA [10 day]	Water	\$45.00	\$45.00
1	MOLYBDENUM - ICP [10 day]	Water	\$15.00	\$15.00
1	NICKEL - ICP [10 day]	Water	\$15.00	\$15.00
1	NITRATE NITROGEN [10 day]	Water	\$25.00	\$25.00

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**Invoice Number:** 5312074**Invoice Date:** 12/15/03

Page 3 of 3

071

**Koppers Industries, Inc.**  
7540 NW St. Helens Road  
Portland, OR 97210-3663  
Attn: Amos Kamerer

**PO Number**

NA

**Project**

NPDES Permit Renewal Tests

**Received**

11/19/03

**Work Order(s)**

3111915

**Client**

Koppers Industries, Inc.

**Project Number**

[none]

**Comments**

QUANTITY	ANALYSIS/DESCRIPTION	MATRIX	UNIT COST	EXTENDED COST
1	O & G, TOTAL (HEM) [10 day]	Water	\$45.00	\$45.00
1	PH [10 day]	Water	\$15.00	\$15.00
1	PHENOLS, TOTAL [10 day]	Water	\$50.00	\$50.00
1	PHOSPHORUS, TOTAL [10 day]	Water	\$35.00	\$35.00
1	RESIDUAL CHLORINE 1 [10 day]	Water	\$25.00	\$25.00
1	SELENIUM - ICP [10 day]	Water	\$15.00	\$15.00
1	SILVER - ICP [10 day]	Water	\$15.00	\$15.00
1	SULFATE- IC [10 day]	Water	\$25.00	\$25.00
1	SULFIDE [10 day]	Water	\$30.00	\$30.00
1	SULFITE [10 day]	Water	\$30.00	\$30.00
1	SURFACTANTS (MBAS) [10 day]	Water	\$95.00	\$95.00
1	SUSPENDED SOLIDS [10 day]	Water	\$22.00	\$22.00
1	THALLIUM - ICP [10 day]	Water	\$15.00	\$15.00
1	TIN - ICP [10 day]	Water	\$15.00	\$15.00
1	TITANIUM - ICP [10 day]	Water	\$15.00	\$15.00
1	TKN [10 day]	Water	\$45.00	\$45.00
1	TOC [10 day]	Water	\$45.00	\$45.00
1	VOC 624 Extended [10 day]	Water	\$200.00	\$200.00
1	ZINC - ICP [10 day]	Water	\$15.00	\$15.00

**Invoice Total: \$1,772.00**

COLUMBIA INSPECTION, INC 7133 N. Lombard, Portland, OR 97203 Phone:(503) 286-9464 Fax:(503) 286-5355 E-mail:lab@ColumbiaInspection.com

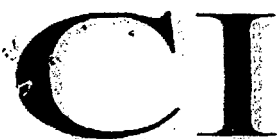
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PO Box 83569, St. Johns Station  
Portland, OR 97283

Koppers001420



# CERTIFICATE OF ANALYSIS

CLIENT: Koppers Industries, Inc.  
ATTN: T.J. Turner  
7540 NW St. Helens Road  
Portland OR, 97210-3663

PROJECT NAME: NPDES Permit Renewal Tests

PHONE: (503) 286-3681  
FAX: (503) 285-2831

SUBMITTED: 02/26/04 17:07

REPORT DATE: 03/11/04 15:06

REPORT NUMBER: 4022616

PAGE: 1 OF 5

CI SAMPLE	CLIENTS ID#	DATE	TIME	MATRIX
4022616-01	Stormwater Tank	02/26/2004	1515	Water

SAMPLE/ ANALYSIS	METHOD	PARAMETER	RESULTS	UNITS	DETECTION LIMIT	TECH	DATE/TIME
<b>4022616-01 SAMPLE ID: Stormwater Tank</b>							
<b>General Bench Analysis</b>							
AMMONIA DISTILLATION	EPA 350.2	AMMONIA NITROGEN	0.84	mg/L	0.20	AKH	03/11/2004 08:14
BOD	EPA 405.1	5-DAY BOD TEST	ND	mg/L	5.0	AKH	03/08/2004 09:07
COD	EPA 410.4	CHEMICAL OXYGEN DEMAND	31	mg/L	10	AKH	03/11/2004 12:56
COLOR - EPA	EPA 110.2	COLOR	45	COLOR UNIT		AKH	03/11/2004 07:43
CYANIDE, TOTAL	SM 4500-CN-B-C	CYANIDE	0.0052	mg/L	0.0030	AKH	03/10/2004 09:50
FLUORIDE - EPA	EPA 340.2	FLUORIDE	0.16	mg/L	0.10	AKH	03/04/2004 15:56
NITRATE NITROGEN	SM 4500 NO3-D	NITRATE NITROGEN	2.0	mg/L	0.10	AKH	03/04/2004 15:51
O & G, TOTAL (HEM)	EPA 1664	TOTAL OIL AND GREASE	8.7	mg/L	2.0	PA	02/27/2004 15:52
PH	EPA 150.1/9040	PH TEMPERATURE (C)	6.71 22.2	SU SU		AKH	02/27/2004 09:23
PHENOLS, TOTAL	EPA 420.1	TOTAL RECOVERABLE PHENOLICS	0.066	mg/L	0.050	AKH	03/01/2004 15:57
PHOSPHORUS, TOTAL	EPA 365.3	PHOSPHORUS	0.072	mg/L	0.010	AKH	03/04/2004 08:47
RESIDUAL CHLORINE 1	EPA 330.4	RESIDUAL CHLORINE	ND	mg/L	0.050	AKH	02/27/2004 13:48
SULFATE, TURBID.	EPA 375.4	SULFATE	5.96	mg/L	5.00	AKH	03/11/2004 13:02
SULFIDE	EPA 376.1	SULFIDE	ND	mg/L	1.0	AKH	03/01/2004 13:23
SULFITE	EPA 377.1	SULFITE	ND	mg/L	1.0	DR	03/11/2004 14:44
SURFACTANTS (MBAS)	SM 5540 C	MBAS, CALCULATED AS LAS	0.12	mg LAS/L	0.020	SUB	03/11/2004 07:29
SUSPENDED SOLIDS	EPA 160.2	TOTAL SUSPENDED SOLIDS	4.0	mg/L	1.0	AKH	03/02/2004 13:43
TKN	SM4500-N, C	TOTAL KJELDAHL NITROGEN	1.5	mg/L	0.20	AKH	03/05/2004 15:36
TOC	EPA 415.1	TOTAL ORGANIC CARBON	4.9	mg/L	0.50	DR	03/11/2004 07:35

## Total Mercury by Cold Vapor Atomic Absorption


MERCURY - CVAA	EPA 245.1/7470A	MERCURY	ND	ug/L	0.200	SUB	03/04/2004 14:45
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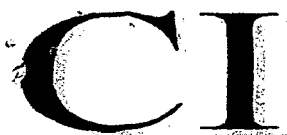
## Total Metals by Inductively Coupled Plasma

ALUMINUM - ICP	EPA 200.7/6010B	ALUMINUM	0.077	mg/L	0.020	BKB	03/01/2004 13:45
ANTIMONY - ICP		ANTIMONY	ND	mg/L	0.005	BKB	03/01/2004 13:45
ARSENIC - ICP		ARSENIC	ND	mg/L	0.010	BKB	03/01/2004 13:45
BARIUM - ICP		BARIUM	0.006	mg/L	0.002	BKB	03/01/2004 13:45
BERYLLIUM - ICP		BERYLLIUM	ND	mg/L	0.0010	BKB	03/01/2004 13:45
BORON - ICP		BORON	0.021	mg/L	0.010	BKB	03/01/2004 13:45
CADMIUM - ICP		CADMIUM	ND	mg/L	0.001	BKB	03/01/2004 13:45
CHROMIUM - ICP		CHROMIUM	ND	mg/L	0.001	BKB	03/01/2004 13:45
COBALT - ICP		COBALT	ND	mg/L	0.010	BKB	03/01/2004 13:45
COPPER - ICP		COPPER	0.011	mg/L	0.001	BKB	03/01/2004 13:45
IRON - ICP		IRON	1.5	mg/L	0.005	BKB	03/01/2004 13:45

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# CERTIFICATE OF ANALYSIS

REPORT DATE: 03/11/04 14:45

REPORT NUMBER: 4022616

PAGE: 2 OF 5

SAMPLE/ ANALYSIS	METHOD	PARAMETER	RESULTS	UNITS	DETECTION LIMIT	TECH	DATE/TIME
4022616-01	SAMPLE ID: Stormwater Tank						
Total Metals by Inductively Coupled Plasma							
LEAD - ICP	EPA 200.7/6010B	LEAD	ND	mg/L	0.001	BKB	03/01/2004 13:45
MAGNESIUM - ICP		MAGNESIUM	2.6	mg/L	0.040	BKB	03/01/2004 13:45
MANGANESE - ICP		MANGANESE	0.19	mg/L	0.001	BKB	03/01/2004 13:45
MOLYBDENUM - ICP		MOLYBDENUM	ND	mg/L	0.001	BKB	03/01/2004 13:45
NICKEL - ICP		NICKEL	ND	mg/L	0.004	BKB	03/01/2004 13:45
SELENIUM - ICP		SELENIUM	ND	mg/L	0.030	BKB	03/01/2004 13:45
SILVER - ICP		SILVER	ND	mg/L	0.010	BKB	03/01/2004 13:45
THALLIUM - ICP		THALLIUM	ND	mg/L	0.070	BKB	03/01/2004 13:45
TIN - ICP		TIN	0.042	mg/L	0.040	BKB	03/01/2004 13:45
TITANIUM - ICP		TITANIUM	ND	mg/L	0.050	BKB	03/01/2004 13:45
ZINC - ICP		ZINC	0.091	mg/L	0.001	BKB	03/01/2004 13:45

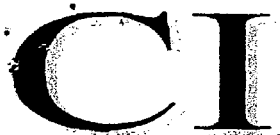
## Volatile Organics by Gas Chromatography/Mass Spectroscopy

VOC 624 Extended	EPA 624	ACROLEIN	ND	mg/L	0.1000	PA	03/10/2004 08:24
		ACRYLONITRILE	ND	mg/L	0.1000		
		BENZENE	0.6250	mg/L	0.0005		
		BROMOCHLOROMETHANE	ND	mg/L	0.0005		
		BROMODICHLOROMETHANE	ND	mg/L	0.0005		
		BROMOFORM	ND	mg/L	0.0005		
		CARBON TETRACHLORIDE	ND	mg/L	0.0005		
		CHLORO BENZENE	ND	mg/L	0.0005		
		CHLORODIBROMOMETHANE	ND	mg/L	0.0005		
		CHLOROETHANE	ND	mg/L	0.0005		
		2-CHLOROETHYL VINYL ETHER	ND	mg/L	0.0005		
		tert-BUTYLBENZENE	ND	mg/L	0.0005		
		CHLOROFORM	ND	mg/L	0.0005		
		CHLOROMETHANE	ND	mg/L	0.0005		
		DICHLOROBROMOMETHANE	ND	mg/L	0.0005		
		1,2-DICHLORO BENZENE	ND	mg/L	0.0005		
		1,3-DICHLORO BENZENE	ND	mg/L	0.0005		
		1,4-DICHLORO BENZENE	ND	mg/L	0.0005		
		1,1-DICHLOROETHANE	ND	mg/L	0.0005		
		1,2-DICHLOROETHANE	ND	mg/L	0.0005		
		1,1-DICHLOROETHYLENE	ND	mg/L	0.0005		
		1,2-DICHLOROPROPANE	ND	mg/L	0.0005		
		TRANS-1,3-DICHLOROPROPENE	ND	mg/L	0.0005		
		CIS-1,3-DICHLOROPROPENE	ND	mg/L	0.0005		
		TRANS-1,2-DICHLOROETHENE	ND	mg/L	0.0005		
		CIS-1,2-DICHLOROETHENE	ND	mg/L	0.0005		
		ETHYLBENZENE	0.0164	mg/L	0.0005		
		METHYL BROMIDE	ND	mg/L	0.0005		
		METHYL CHLORIDE	ND	mg/L	0.0005		
		METHYLENE CHLORIDE	ND	mg/L	0.0005		
		METHYL-TERT-BUTYL ETHER (MTBE)	ND	mg/L	0.0005		
		NAPHTHALENE	0.3473	mg/L	0.0005		
		STYRENE	0.0412	mg/L	0.0005		
		1,1,2,2-TETRACHLOROETHANE	ND	mg/L	0.0005		
		TETRACHLOROETHENE	ND	mg/L	0.0005		
		TOLUENE	0.4708	mg/L	0.0005		
		1,1,1-TRICHLOROETHANE	ND	mg/L	0.0005		
		1,1,2-TRICHLOROETHANE	ND	mg/L	0.0005		
		TRICHLOROETHYLENE	ND	mg/L	0.0005		
		TRICHLOROFLUORMETHANE	ND	mg/L	0.0005		
		VINYL CHLORIDE	ND	mg/L	0.0005		
		DIBROMOMETHANE	ND	mg/L	0.0005		
		1,2-DIBROMOETHANE	ND	mg/L	0.0005		

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REPORT DATE: 03/11/04 14:45

REPORT NUMBER: 4022616

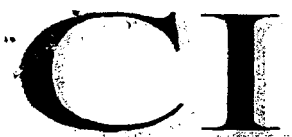
PAGE: 4 OF 5

SAMPLE/ ANALYSIS	METHOD	PARAMETER	RESULTS	UNITS	DETECTION LIMIT	TECH	DATE/TIME
4022616-01	SAMPLE ID: Stormwater Tank						
Semi-Volatile Organics by Gas Chromatography/Mass Spectroscopy							
B/N SEMIVOL 625	EPA 625	1,2-DIPHENYLHYDRAZINE (as AZOBENZENE)	ND	mg/L	0.0025	DM	03/03/2004 23:16
		2,6-DINITROTOLUENE	ND	mg/L	0.0050		
		FLUORANTHENE	ND	mg/L	0.0025		
		FLUORENE	ND	mg/L	0.0025		
		HEXACHLOROBENZENE	ND	mg/L	0.0025		
		HEXACHLOROBUTADIENE	ND	mg/L	0.0025		
		HEXACHLOROCYCLOPENTADIENE	ND	mg/L	0.012		
		HEXACHLOROETHANE	ND	mg/L	0.0025		
		INDENO(1,2,3-cd)PYRENE	ND	mg/L	0.0025		
		ISOPHORONE	ND	mg/L	0.0025		
		NAPHTHALENE	ND	mg/L	0.0025		
		NITROBENZENE	ND	mg/L	0.0025		
		N-NITROSODIMETHYLAMINE	ND	mg/L	0.0025		
		N-NITROSODIPHENYLAMINE	ND	mg/L	0.0025		
		N-NITROSO-DI-N-PROPYLAMINE	ND	mg/L	0.0025		
		N-OCTADECANE	ND	mg/L	0.0025		
		PHENANTHRENE	ND	mg/L	0.0025		
		PYRENE	ND	mg/L	0.0025		
		1,2,4-TRICHLOROBENZENE	ND	mg/L	0.0025		
		Surrogate: 2-Fluorobiphenyl	60.0 %	%RECOVERY	50-150		
		Surrogate: Nitrobenzene-D5	83.3 %	%RECOVERY	50-150		
		Surrogate: p-terphenyl-D14	73.5 %	%RECOVERY	50-150		
Semi-Volatile Organics by Gas Chromatography/ECD							
PCBs 625	EPA 625 (SCAN)	AROCHLOR 1016	ND	mg/L	0.0012	DM	03/08/2004 16:41
		AROCHLOR 1221	ND	mg/L	0.0012		
		AROCHLOR 1232	ND	mg/L	0.0012		
		AROCHLOR 1242	ND	mg/L	0.0012		
		AROCHLOR 1248	ND	mg/L	0.0012		
		AROCHLOR 1254	ND	mg/L	0.0012		
		AROCHLOR 1260	ND	mg/L	0.0012		
PESTICIDES 625	EPA 625 (SIM)	ALDRIN	ND	mg/L	0.0017	DM	03/08/2004 15:47
		ALPHA-BHC	ND	mg/L	0.00083		
		BETA-BHC	ND	mg/L	0.0017		
		GAMMA-BHC (LINDANE)	ND	mg/L	0.00083		
		DELTA-BHC	ND	mg/L	0.0017		
		4,4-DDD	ND	mg/L	0.0033		
		4,4-DDE	ND	mg/L	0.0017		
		CHLORDANE	ND	mg/L	0.0017		
		4,4-DDT	ND	mg/L	0.0033		
		DIELDRIN	ND	mg/L	0.0017		
		ENDOSULFAN I	ND	mg/L	0.0017		
		ENDOSULFAN II	ND	mg/L	0.0033		
		ENDOSULFAN SULFATE	ND	mg/L	0.0033		
		ENDRIN	ND	mg/L	0.0017		
		ENDRIN ALDEHYDE	ND	mg/L	0.0042		
		ENDRIN KETONE	ND	mg/L	0.0042		
		HEPTACHLOR	ND	mg/L	0.0017		
		HEPTACHLOR EPOXIDE	ND	mg/L	0.0017		
		METHOXYCHLOR	ND	mg/L	0.0042		
		TOXAPHENE	ND	mg/L	0.033		
Subcontracted Analysis							
FECAL COLIFORM	SM 9222 D	FECAL COLIFORM	23	CFU/100 ml	2.0	SUB	03/11/2004 07:29

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# CERTIFICATE OF ANALYSIS

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REPORT DATE: 03/11/04 14:45

REPORT NUMBER: 4022616

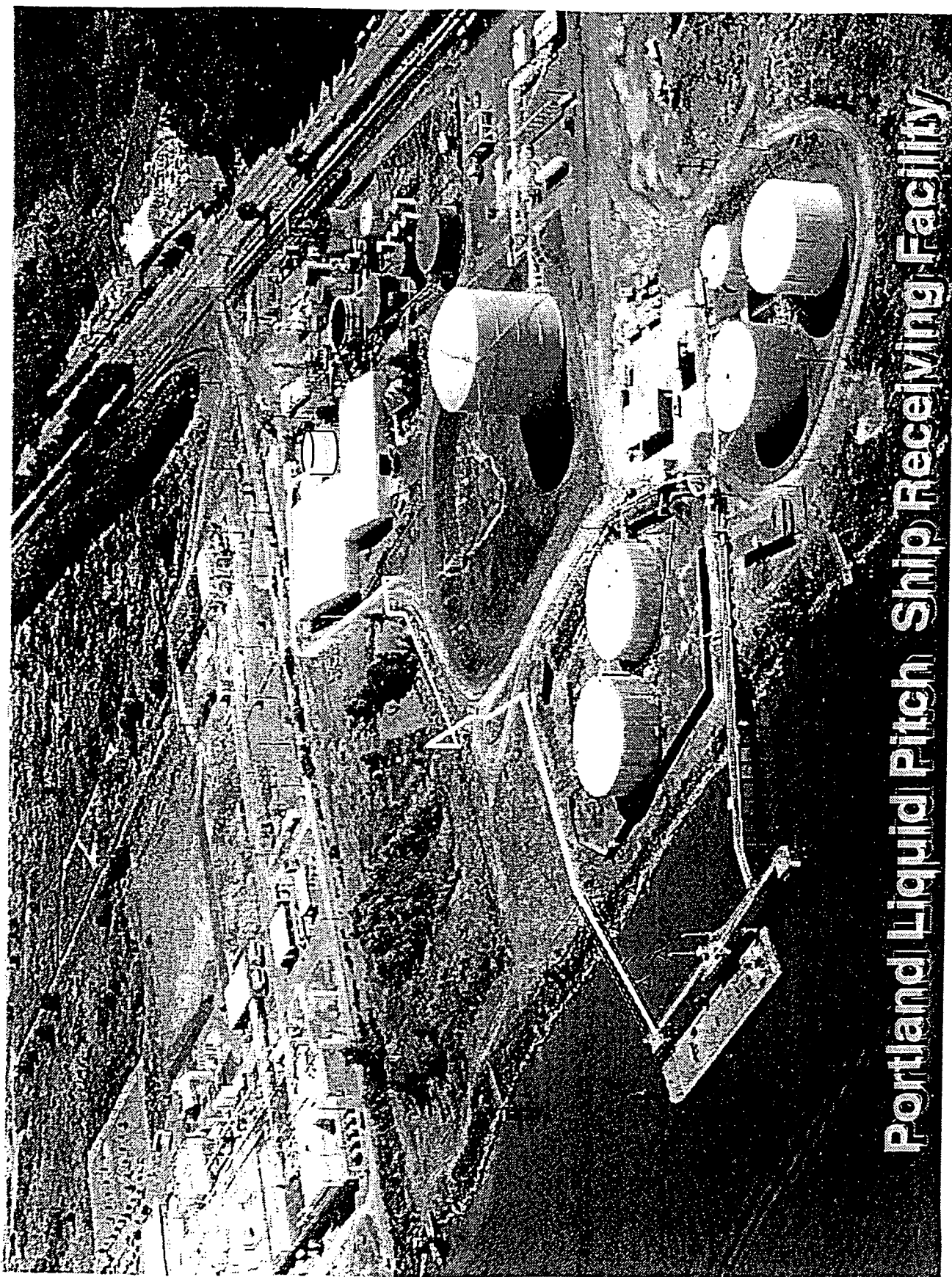
PAGE: 5 OF 5

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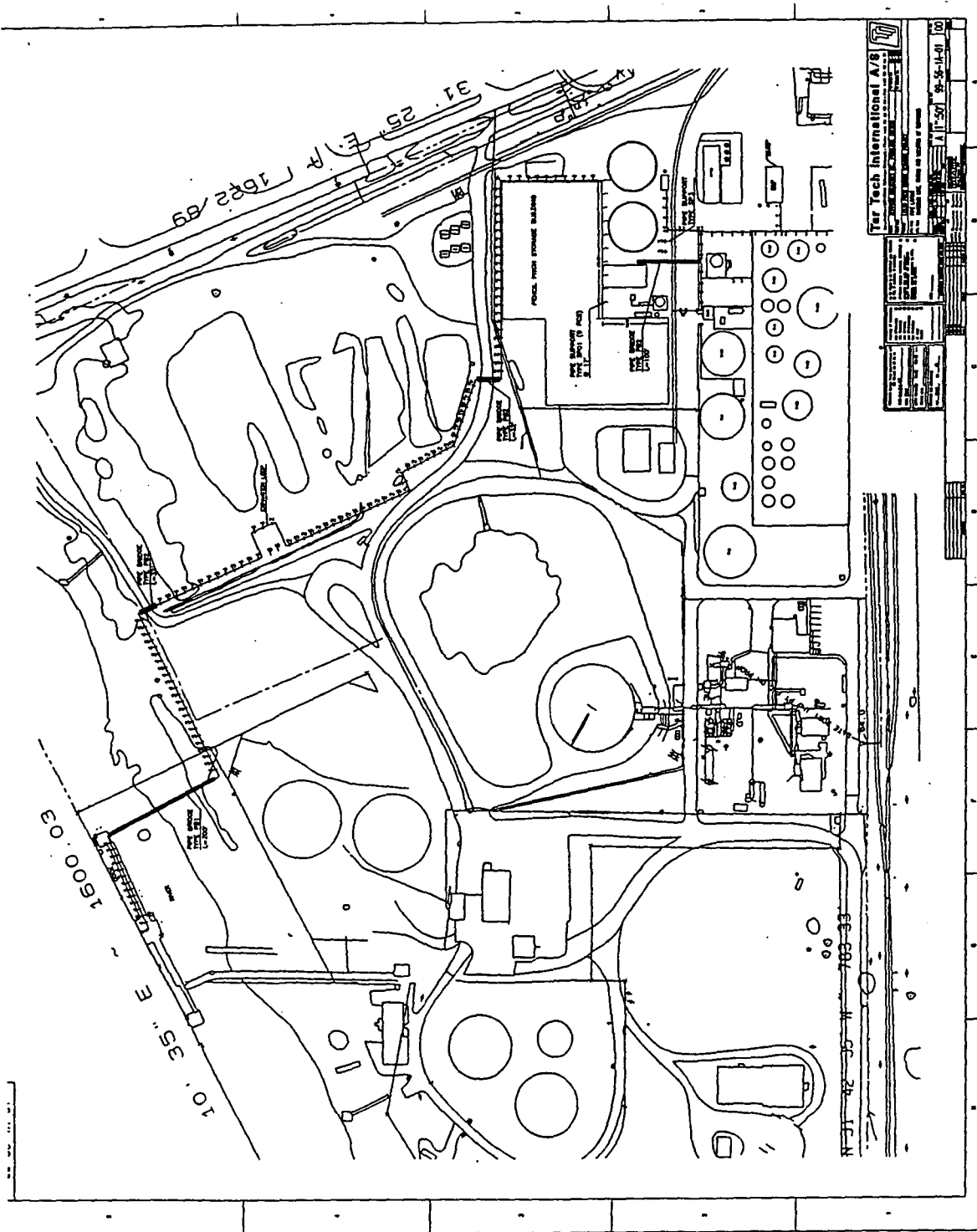
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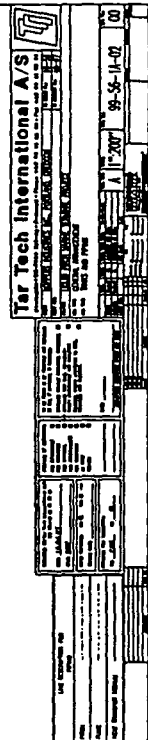
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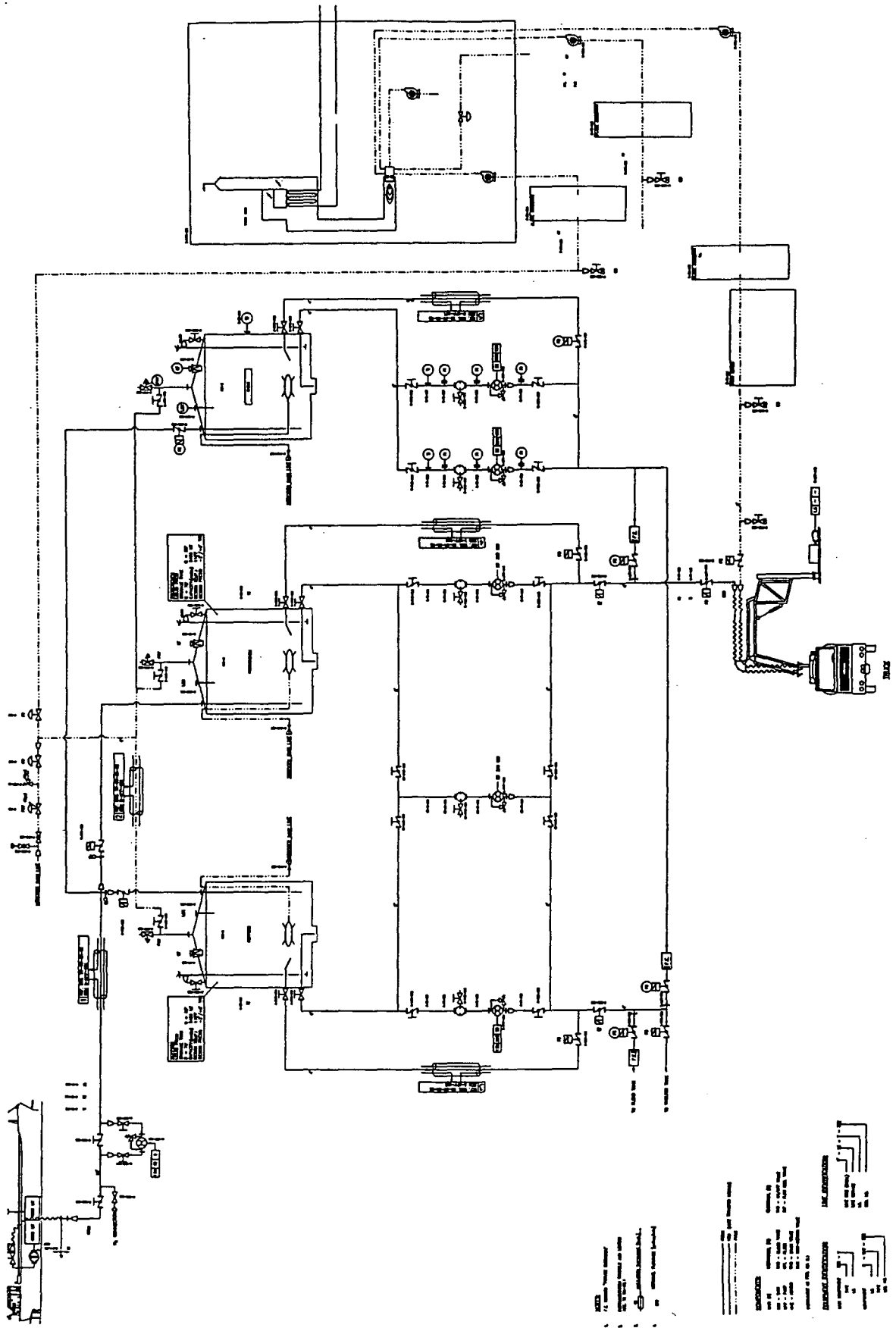


Portland Liquid Pitch Ship Receiving Facility









# KOPPERS INDUSTRIES

**Amos S. Kamerer**  
Plant Manager

Koppers Industries, Inc.  
7540 N.W. St. Helens Road  
Portland, OR 97210-3663

Telephone: 503-286-3681  
Fax: 503-285-2831

January 8, 1996

JAN 16

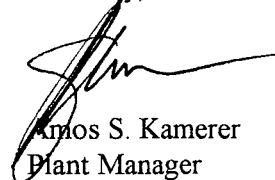
Mr. Don Bloom  
CHMM Hazmat Planner  
Portland Fire Bureau  
4800 N.E. 122nd Ave.  
Portland, OR 97230

Ref: Spill Prevention, Control and Countermeasure Plan

Dear Mr. Bloom,

I just have noticed an incomplete entry in our SPCC plan that effects the tank listing table (page 9) and corresponding site plan (page 24) of this document. Enclosed please find a corrected copy for your files, no other changes were made to the original plan.

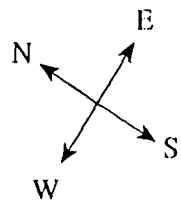
Sincerely,



Amos S. Kamerer  
Plant Manager

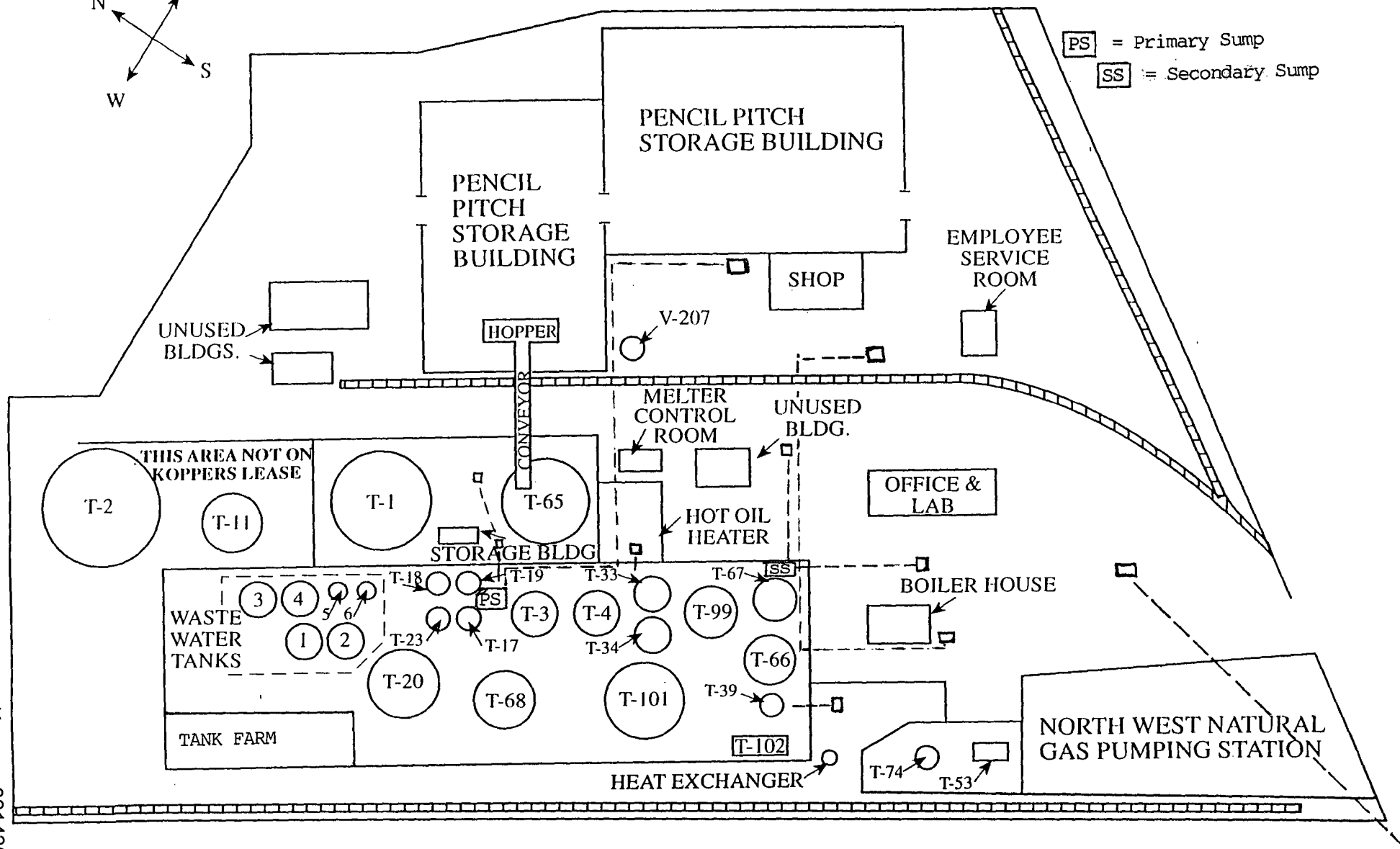
cc: W.E. Swearingen, KII ✓  
J. S. Marcinowski, KII

Koppers001429



PS = Primary Sump

SS = Secondary Sump



PROPERTY SITE PLAN

# TANK LISTING TABLE



Koppers Industries, Inc., Northwest Terminal, Portland, Oregon

<u>Tank No.</u>	<u>Contents</u>	<u>Capacity</u>
1.	Empty-out of service	660 M
2.	Not on lease	1065 M
3.	Methyl Solvent	99 M
4.	Lite Uncorrected Creosote	99 M
11.	Not on Lease	254 M
12.	Not on Lease	57 M
13.	Empty--Out of Service	20 M
17.	P1 / P13 Creosote	20 M
18.	Empty--Out of Service	20 M
19.	Priming & Refractory Oil	20 M
20.	R.T. Creosote Bottoms	317M
23.	Lite Unc. Creosote	20 M
27.	Empty--Out of Service	20 M
33.	Heavy Oil--Pitch & Creosote	45 M
34.	N.S.R.	45 M
39.	P1 / P13 Bottoms	20 M
53.	Empty--Out of Service	10 M
65.	Pitch Melter Tank	761 M
66.	Empty-Out of Service	191 M
67.	P1 / P13 Creosote	102 M
68.	Pitch Storage and Shipping Tank	245 M
74.	Empty-Out of Service	20 M
99.	Creosote Bottoms	209 M
101.	Empty-Out of Service	758 M
102.	Fume Tank	10 M
WW #1	Water-Effluent	45 M
WW #2	Water-Effluent	45 M
WW #3	Water-Effluent	45 M
WW #4	Water-Effluent	45 M
WW #5	Water-Effluent	20 M
WW #6	Water-Effluent	20 M
V 207	Empty-Out of Service	

CITY OF PORTLAND  
**ENVIRONMENTAL SERVICES**

1120 S.W. 5th Ave., Room 400, Portland, OR 97204-1972

**Jim McCadden**  
Permit Manager  
Phone: (503) 823-7126  
Fax: (503) 823-5228



*Printed on Recycled Paper*



File  
City of Portland  
INDUSTRIAL WASTEWATER INSPECTION SUMMARY

cc: B. Swearingen

P.Y.P.

Amos  
12/20

Company: Koppers

The City of Portland Industrial Waste Management Section has completed an inspection of your facility on 12/20/93. After review of your completed forms and site inspection report, your status is as follows:

USER TYPE:

- ☒ Categorical Industrial User (CIU) Non-discharger  
☐ Significant Industrial User (SIU)  
☐ Nonsignificant Industrial User (NIU)  
☐ Nonapplicable Industrial User (NAU)

INSPECTION RESULT:

- ☒ No follow-up activities required at this time  
☐ Follow-up activities are required to satisfy the pretreatment standards  
☐ Description of deficiencies include, but are not limited to:

List of Deficiencies

---

---

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- ☐ Respond within 10 days of this inspection  
☐ A letter of violation (LOV) to follow from the City  
☐ Instructions

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Jim McCadden  
Print Name of Permit Manager/Inspector

Jim McCadden  
Signature (Permit Manager)

12/20/93  
Date

T. J. Turner  
Print Name of Industry Contact

T. J. Turner  
Signature (Industry Contact)

\_\_\_\_\_  
Date

White - City  
Yellow - Industry  
Pink - File

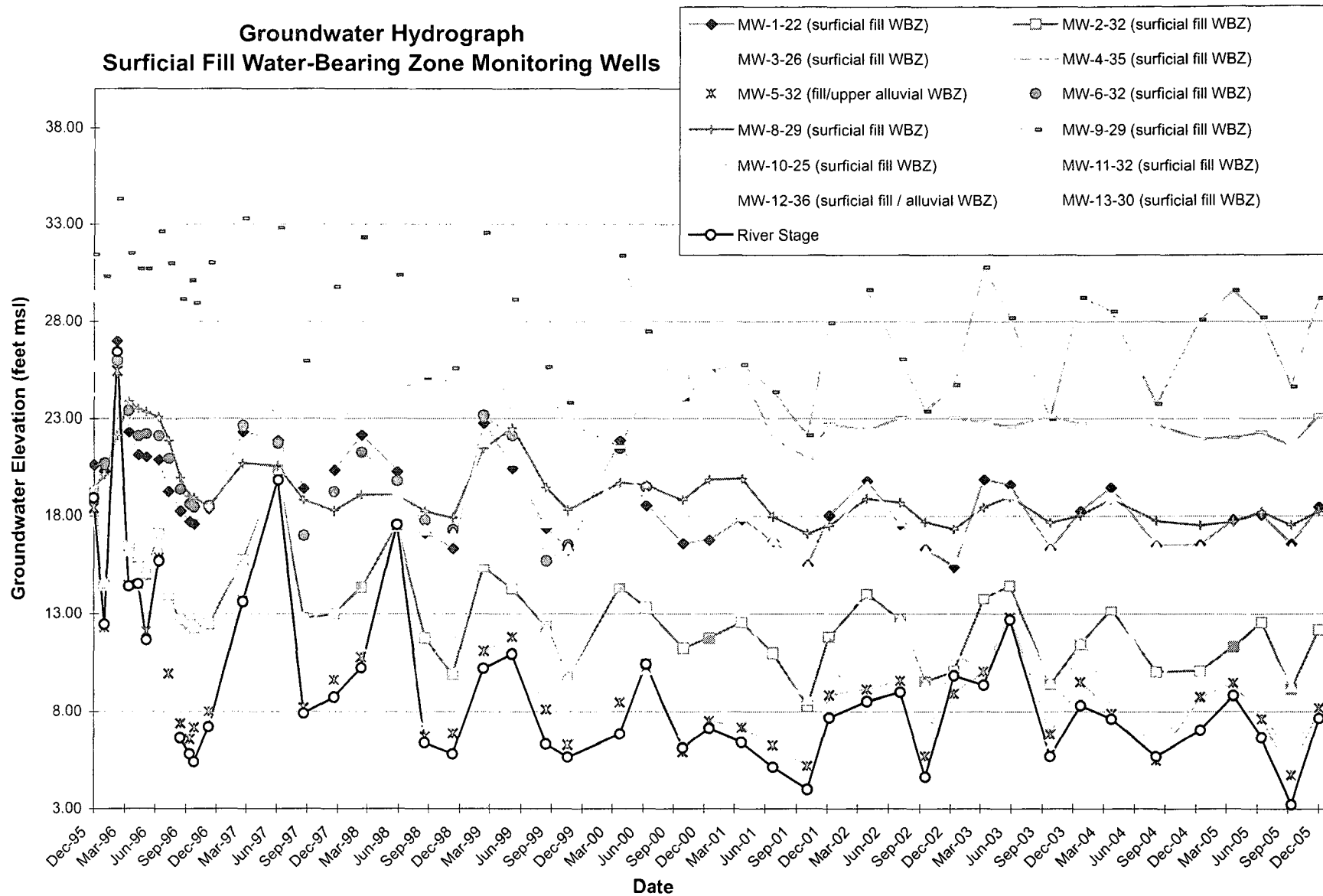
Form 14-23  
Rev 8/90

Koppers001433

## APPENDIX A

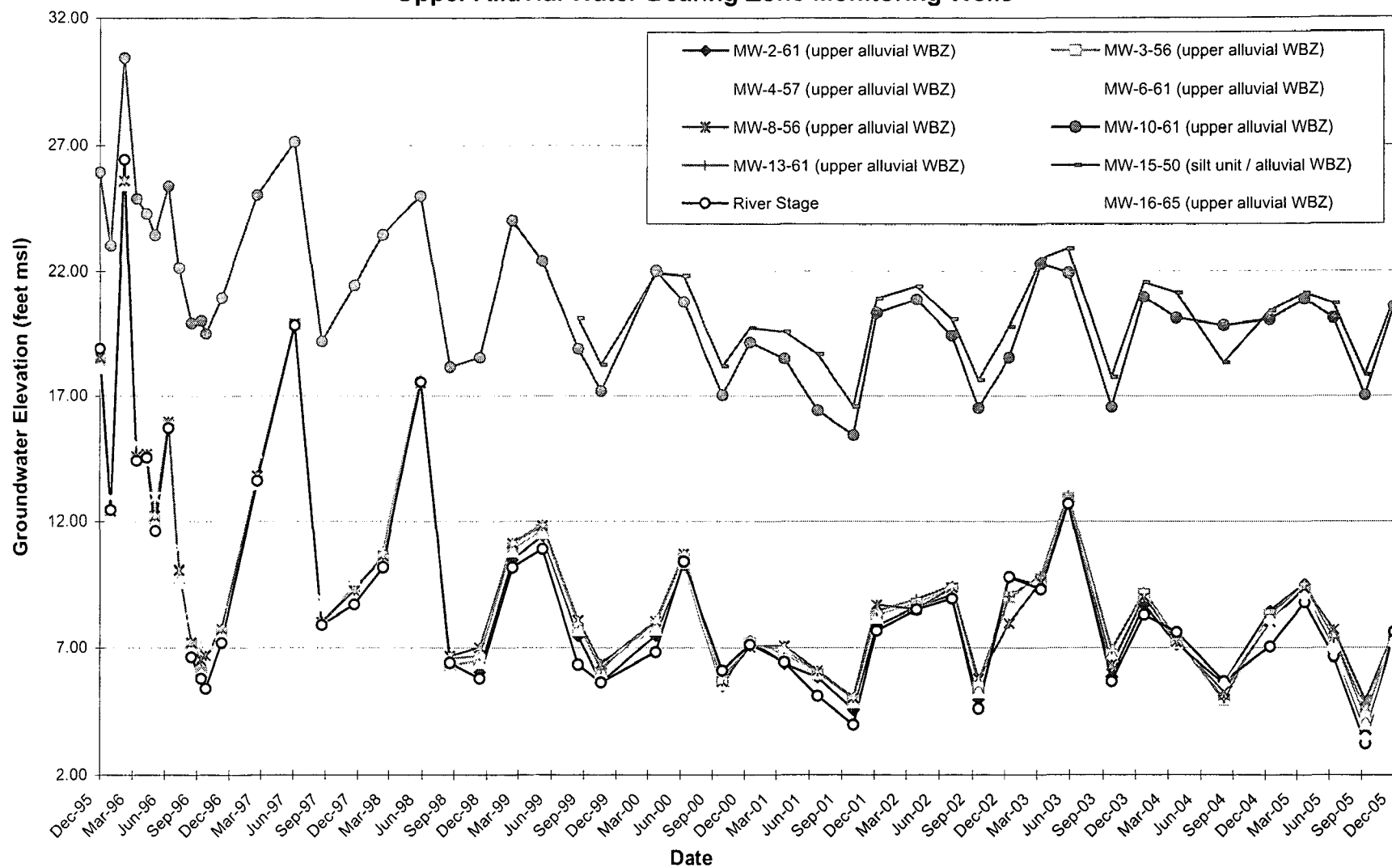
### Groundwater Elevation Hydrographs

# **Groundwater Hydrograph** **Surficial Fill Water-Bearing Zone Monitoring Wells**

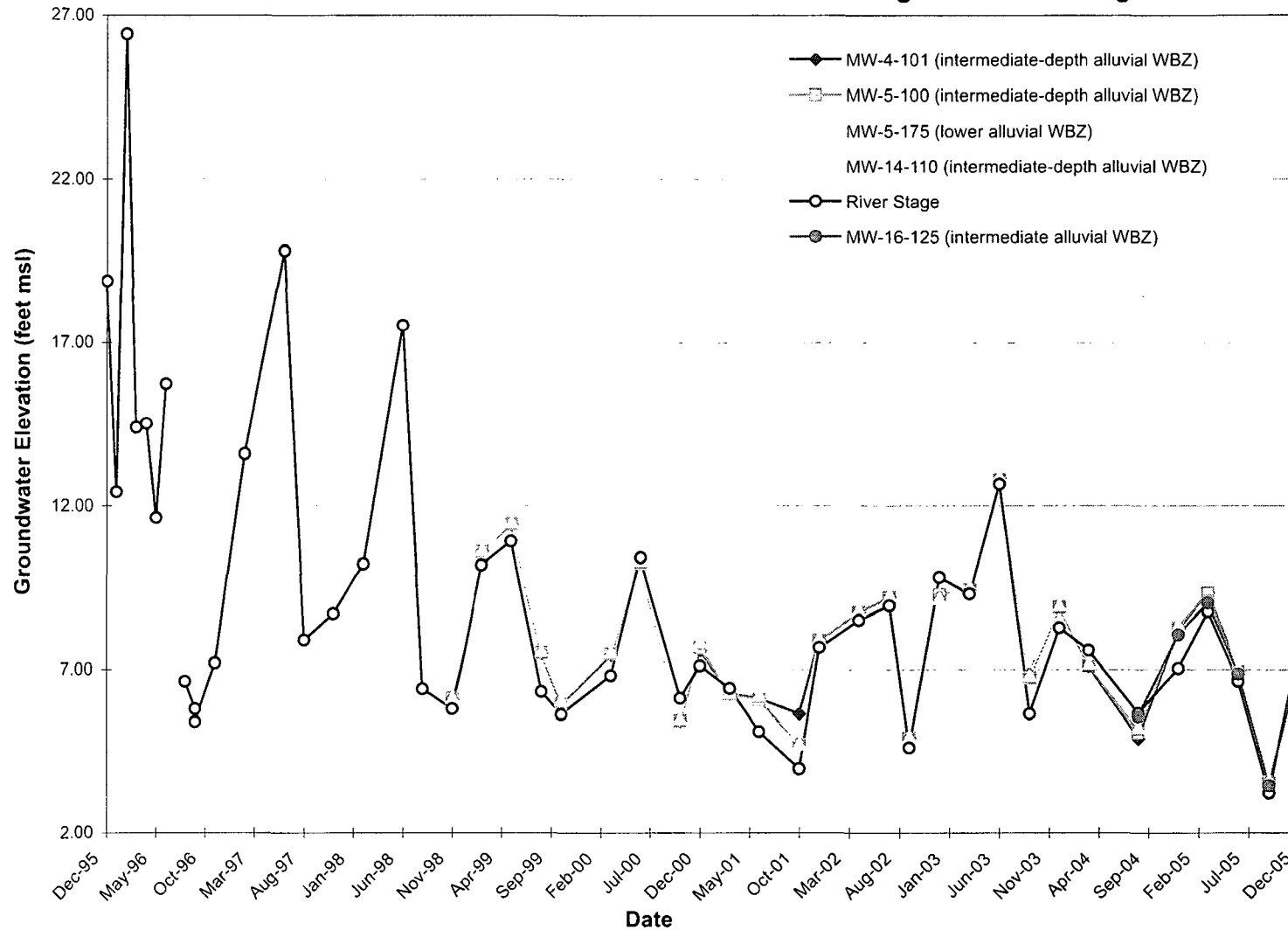




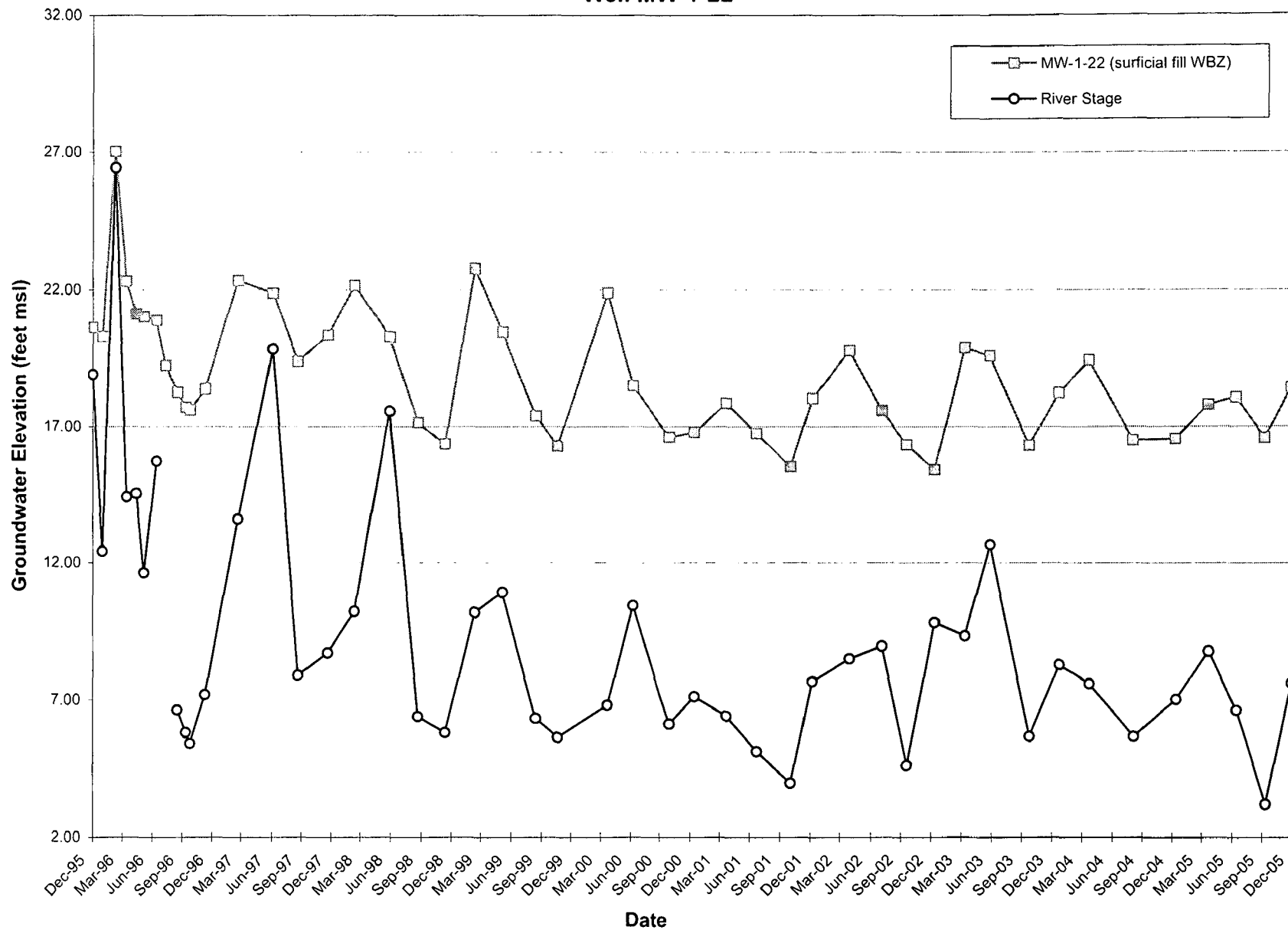
# Groundwater Hydrograph Upper Alluvial Water-Bearing Zone Monitoring Wells



# Groundwater Hydrograph Intermediate and Lower Alluvial Water-Bearing Zone Monitoring Wells

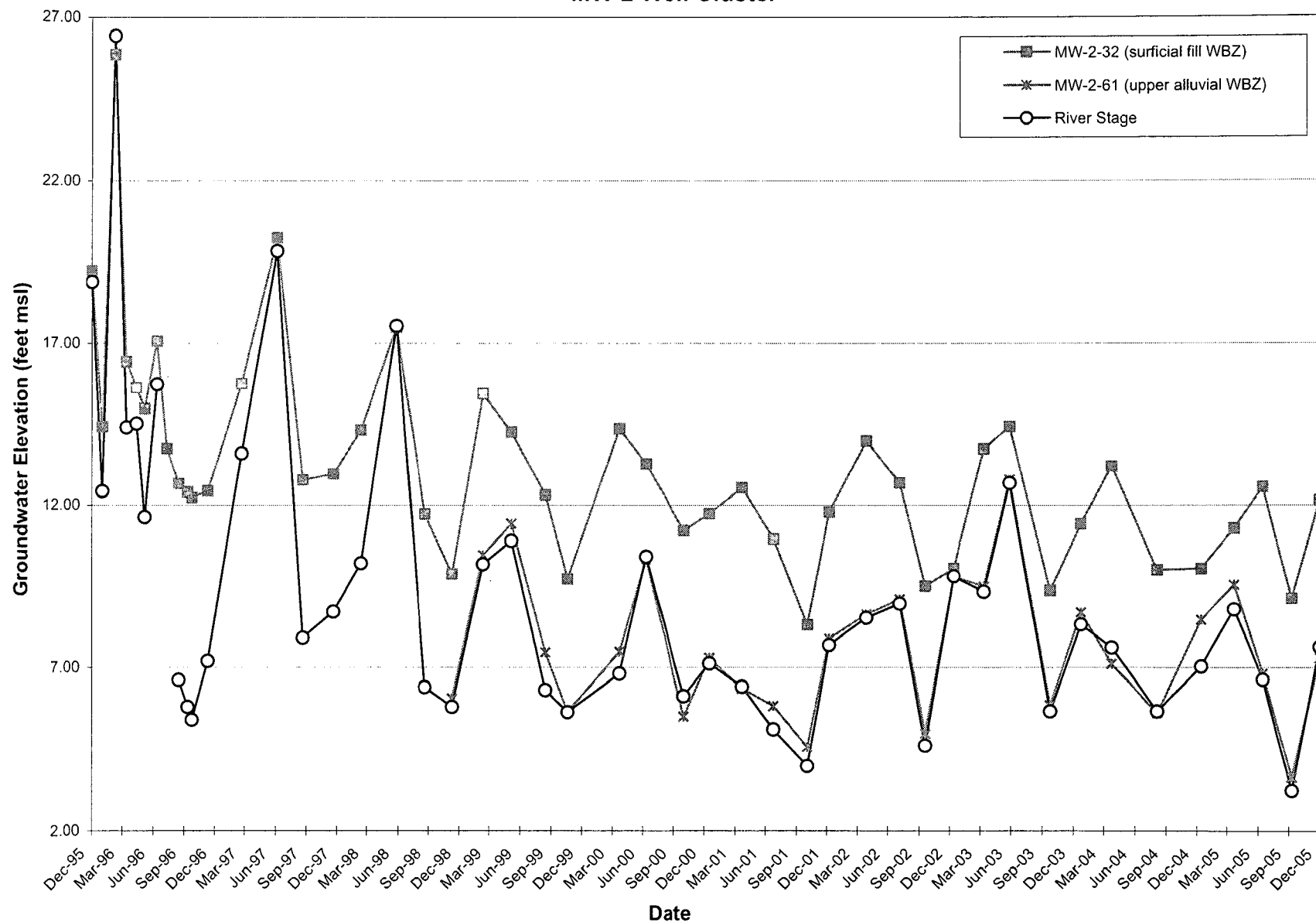


# Groundwater Hydrograph Well MW-1-22

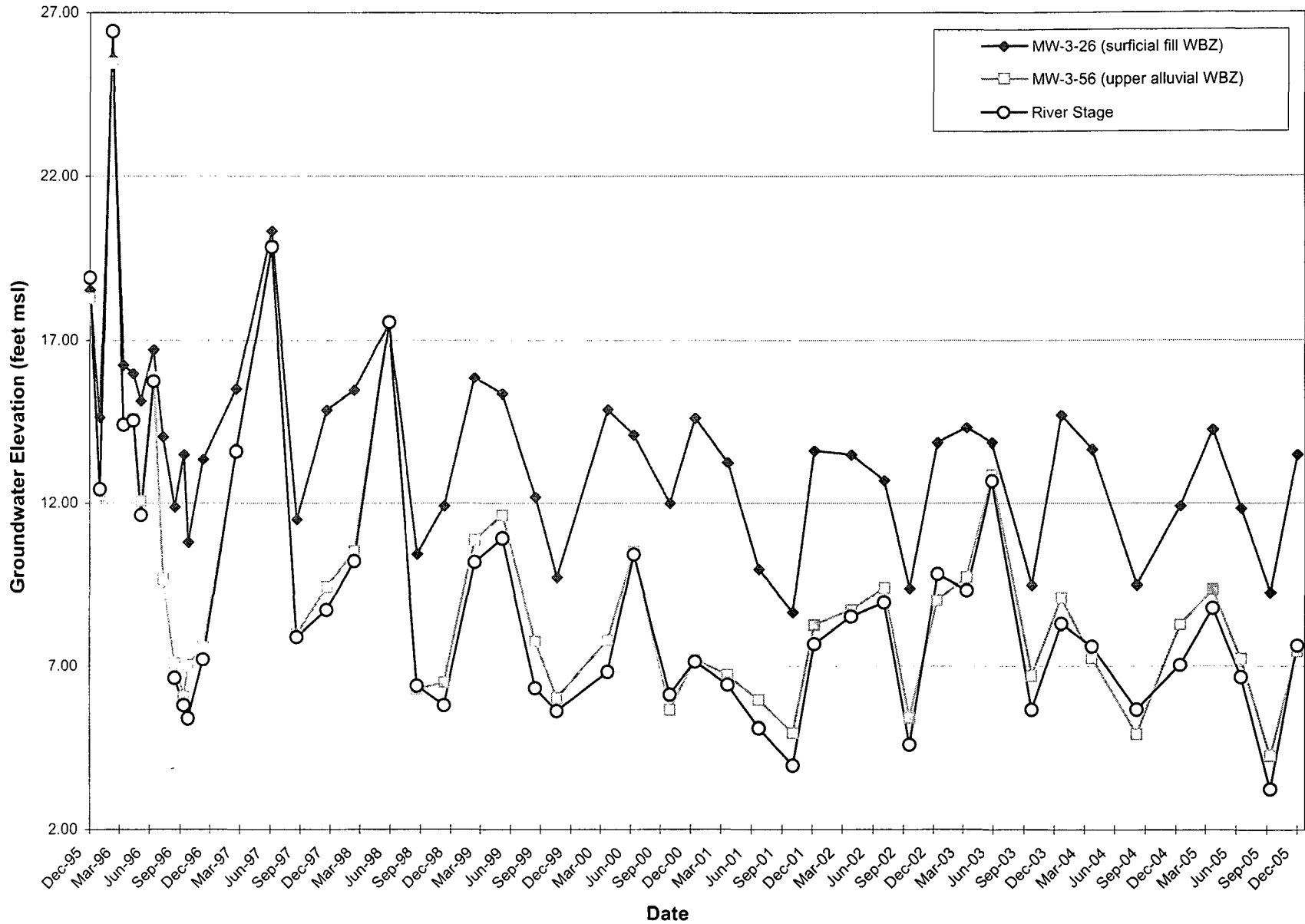


Koppers001438

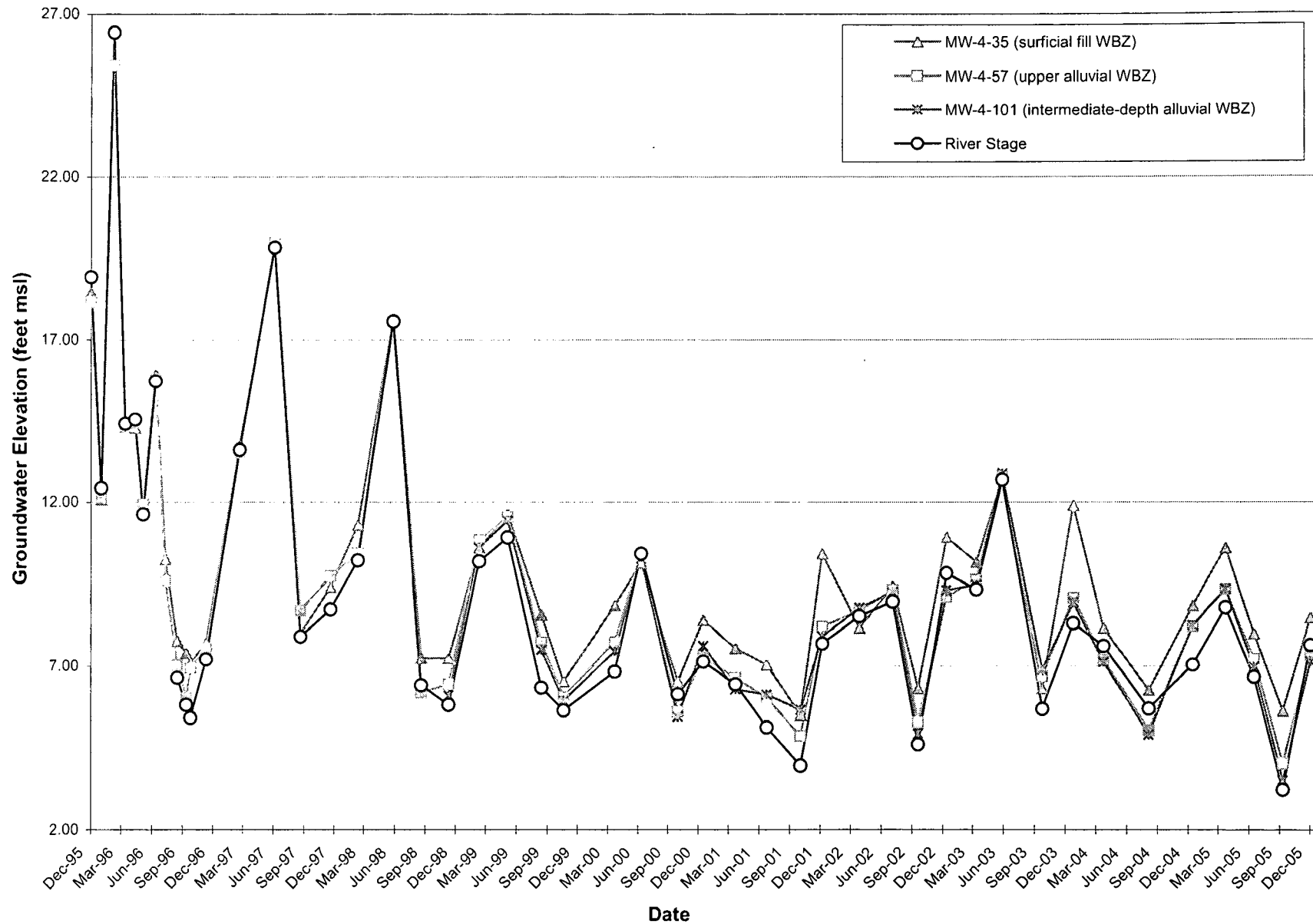
# Groundwater Hydrograph MW-2 Well Cluster



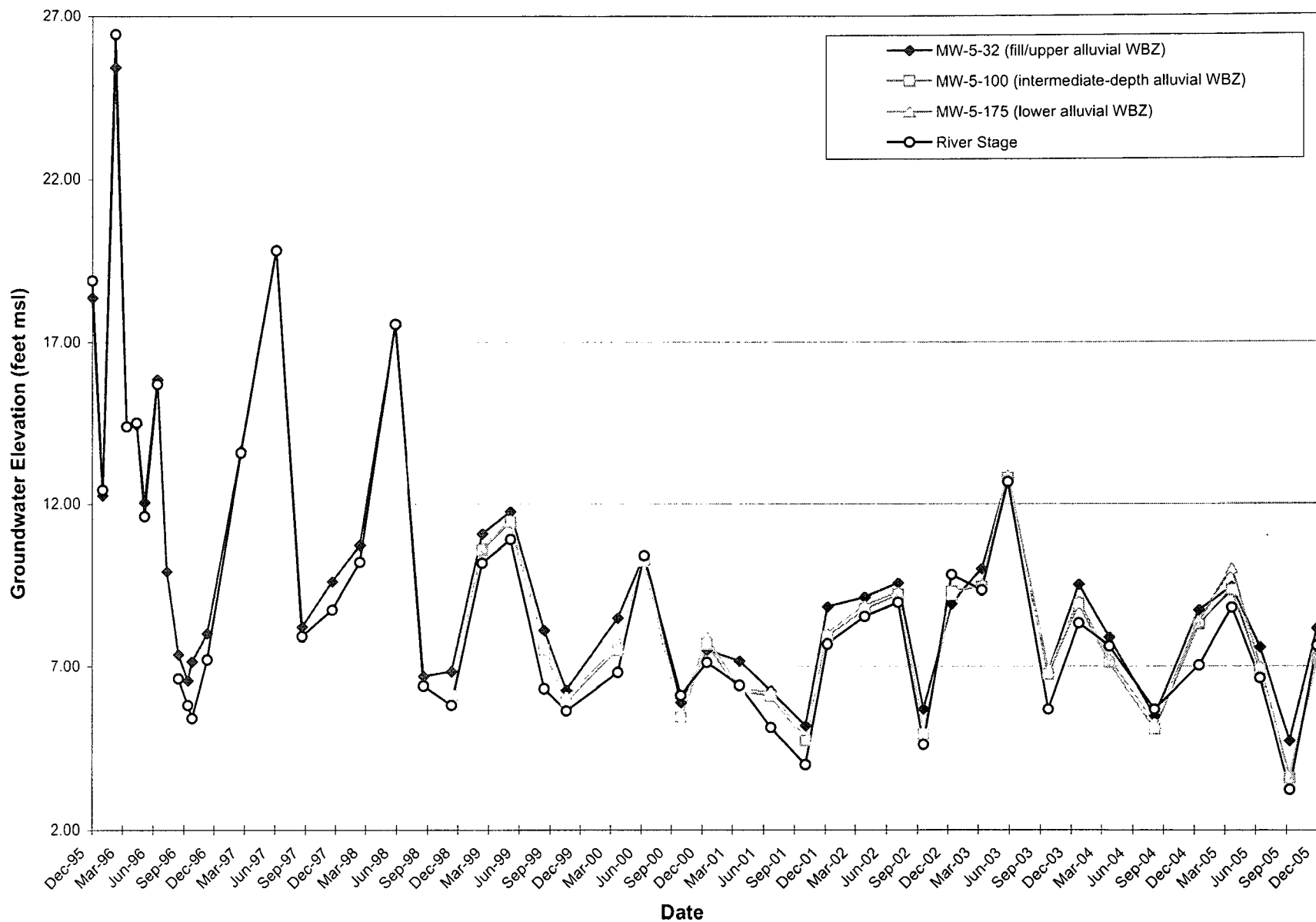
# Groundwater Hydrograph MW-3 Well Cluster



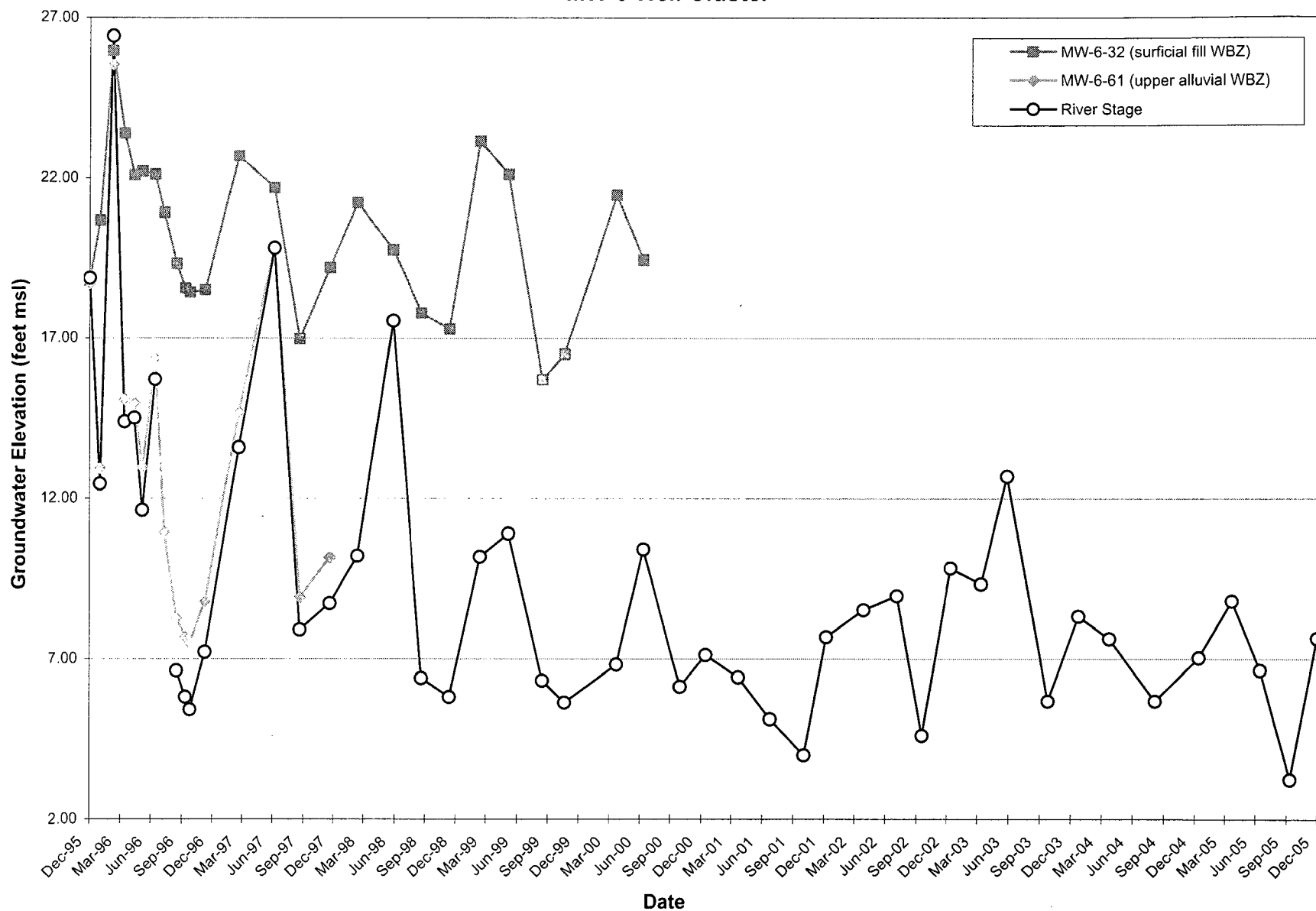
# Groundwater Hydrograph MW-4 Well Cluster



# Groundwater Hydrograph MW-5 Well Cluster



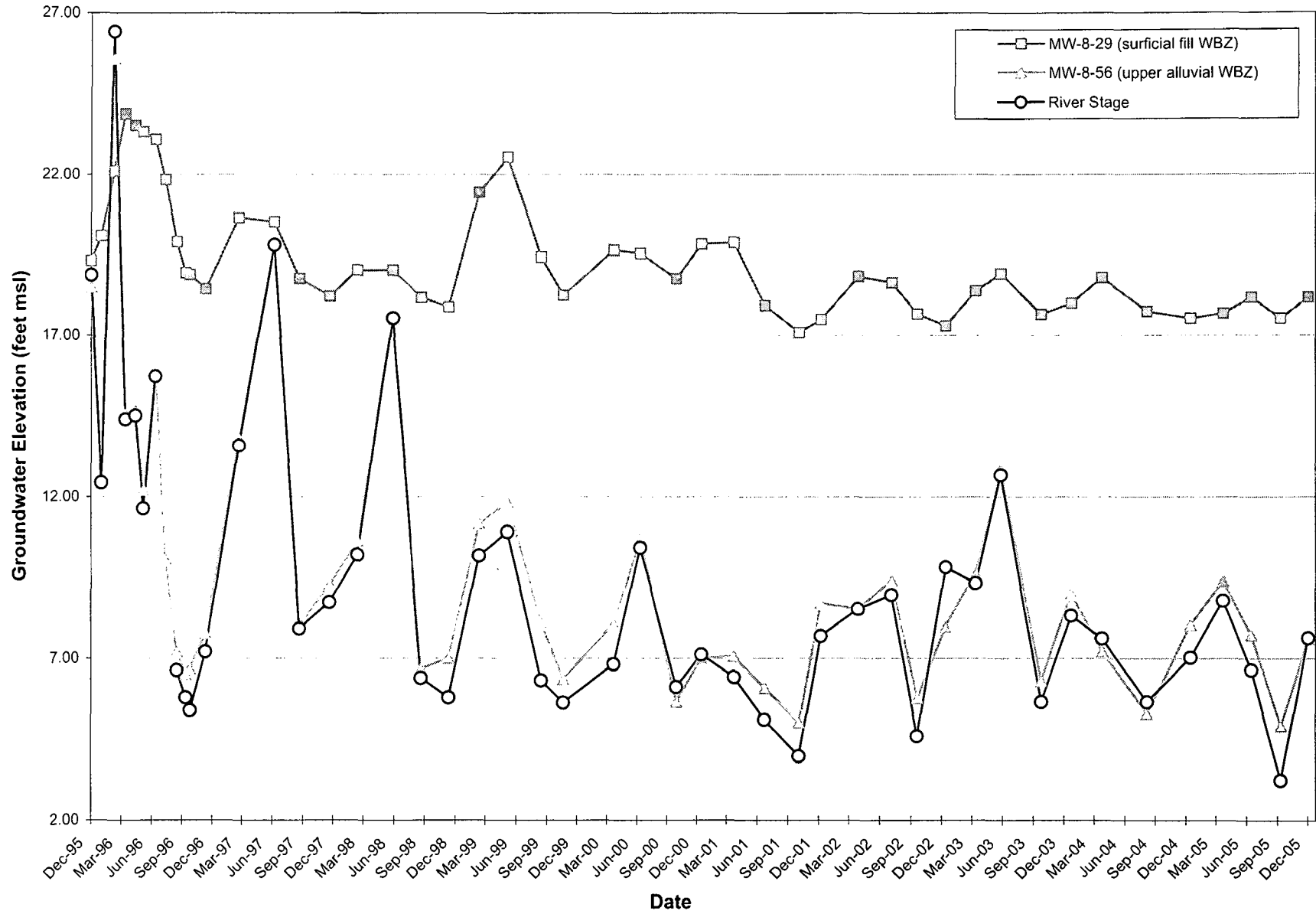
# Groundwater Hydrograph MW-6 Well Cluster



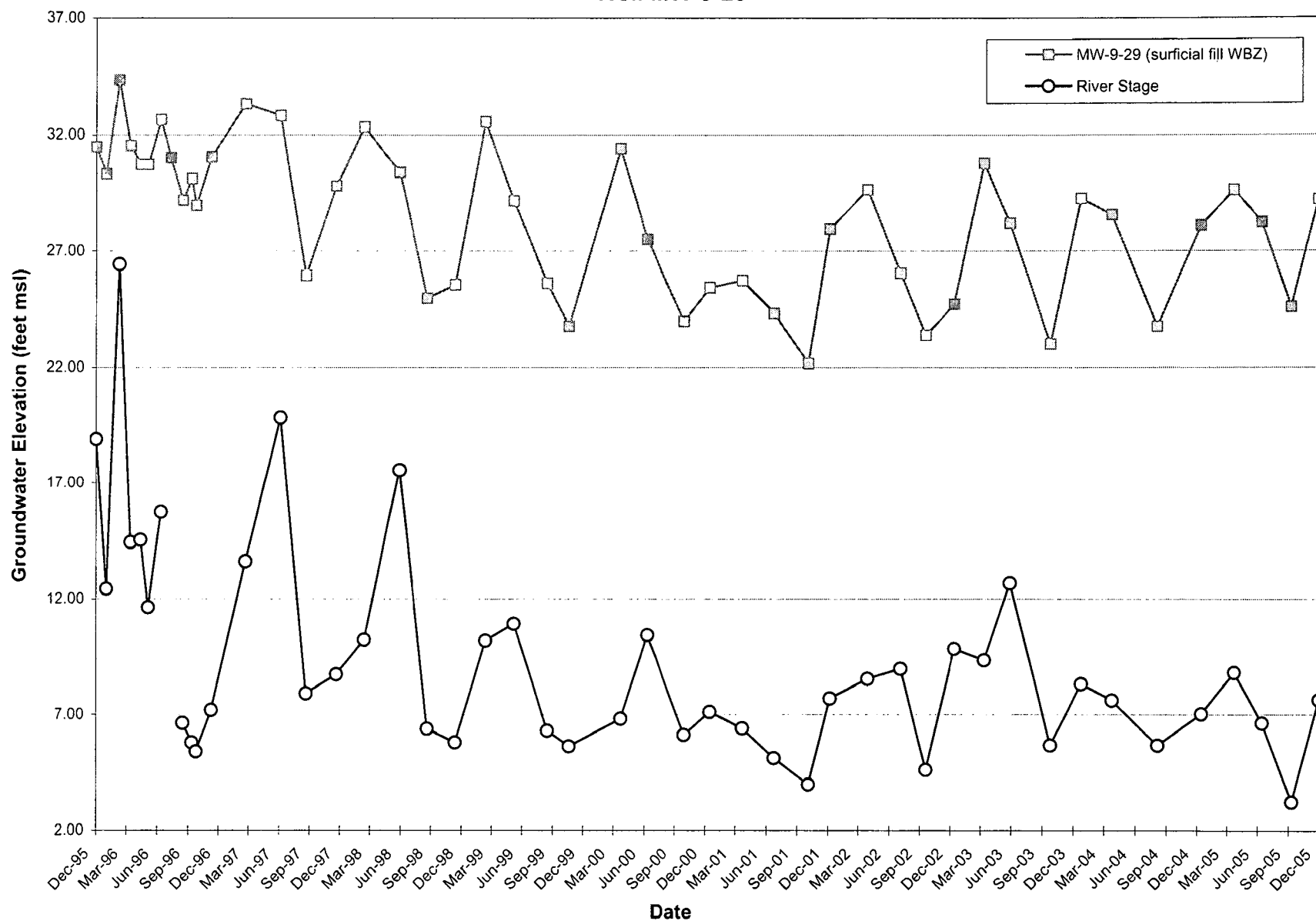
Koppers001443



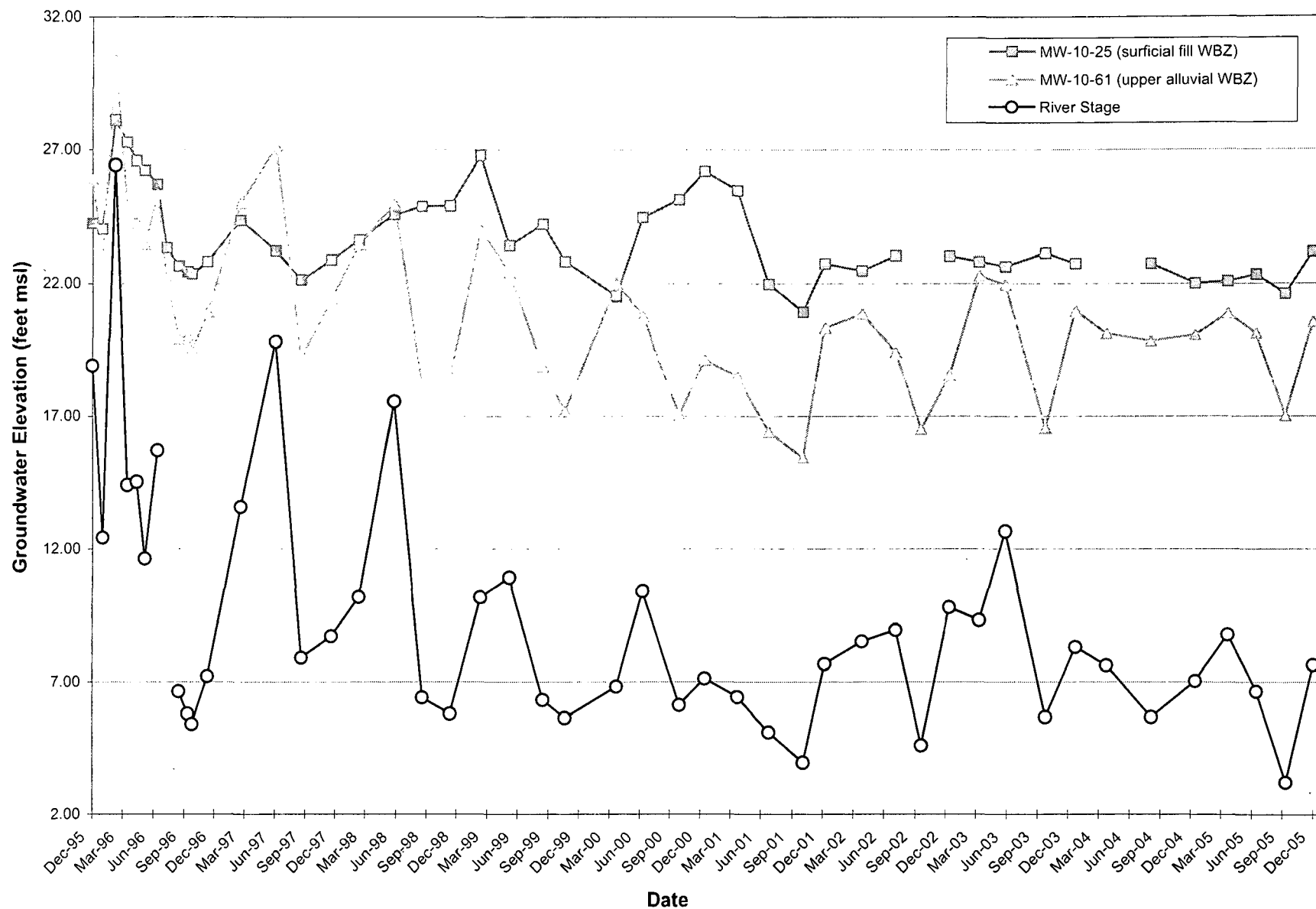
# Groundwater Hydrograph MW-8 Well Cluster



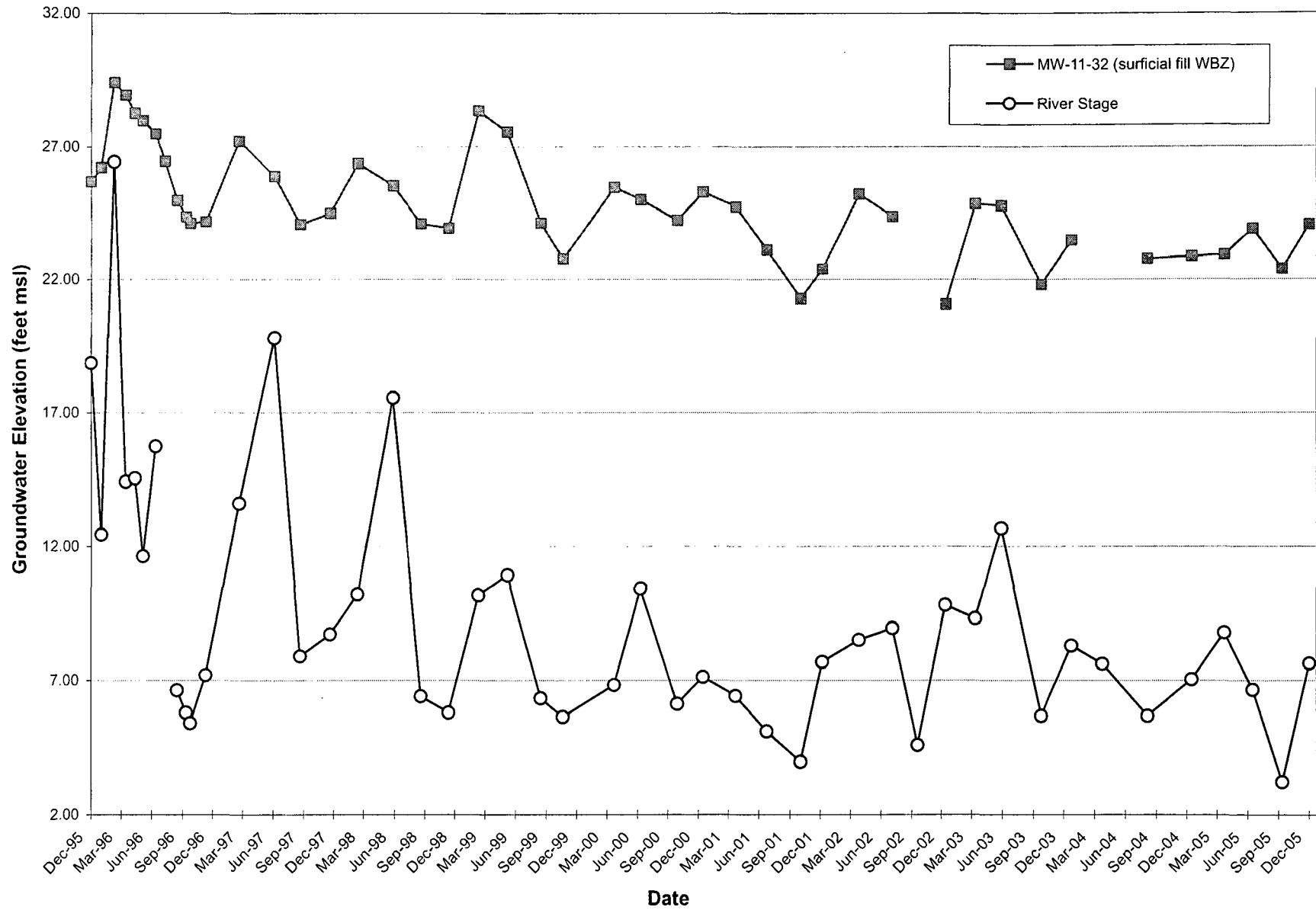
# Groundwater Hydrograph Well MW-9-29



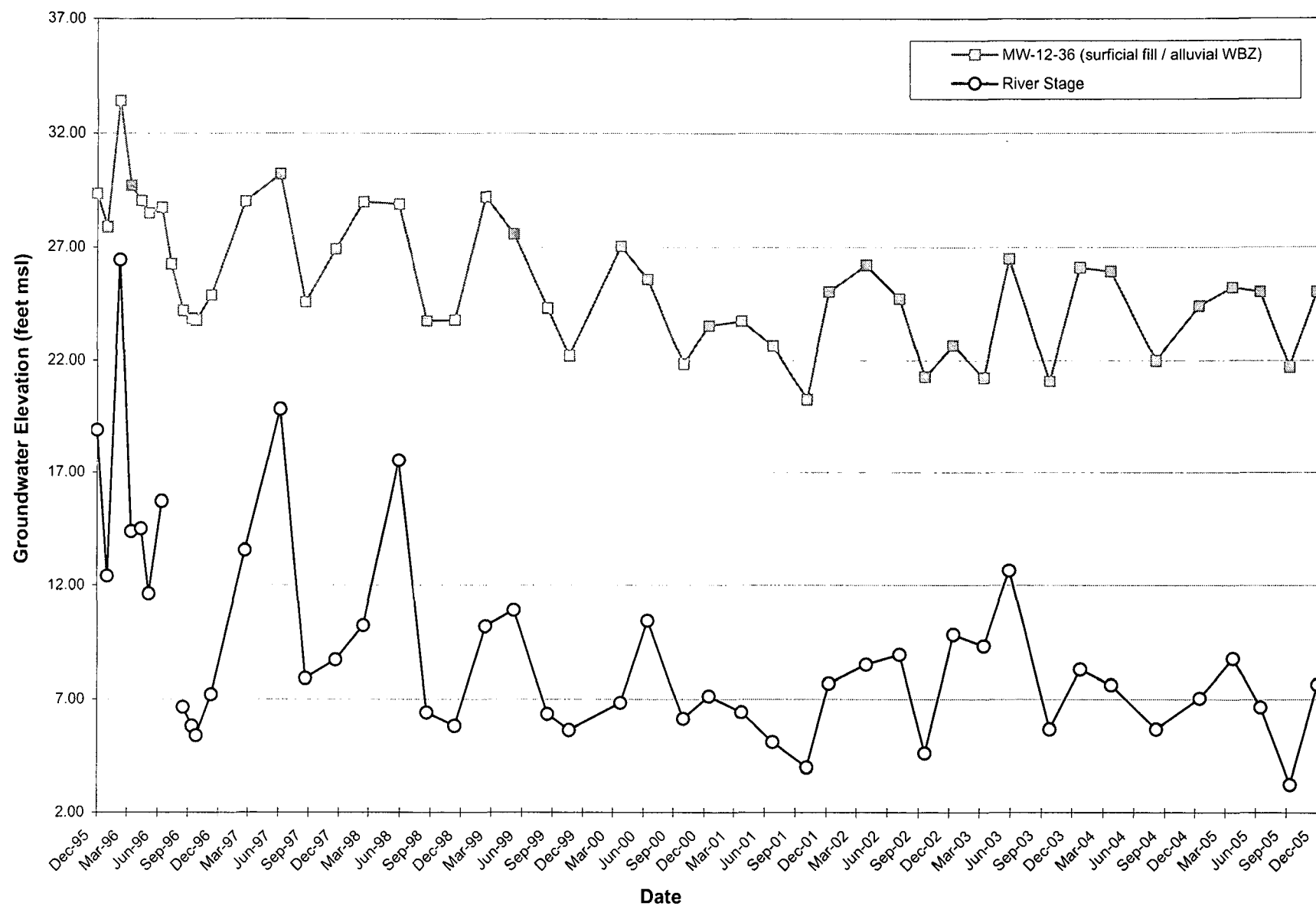
# Groundwater Hydrograph MW-10 Well Cluster



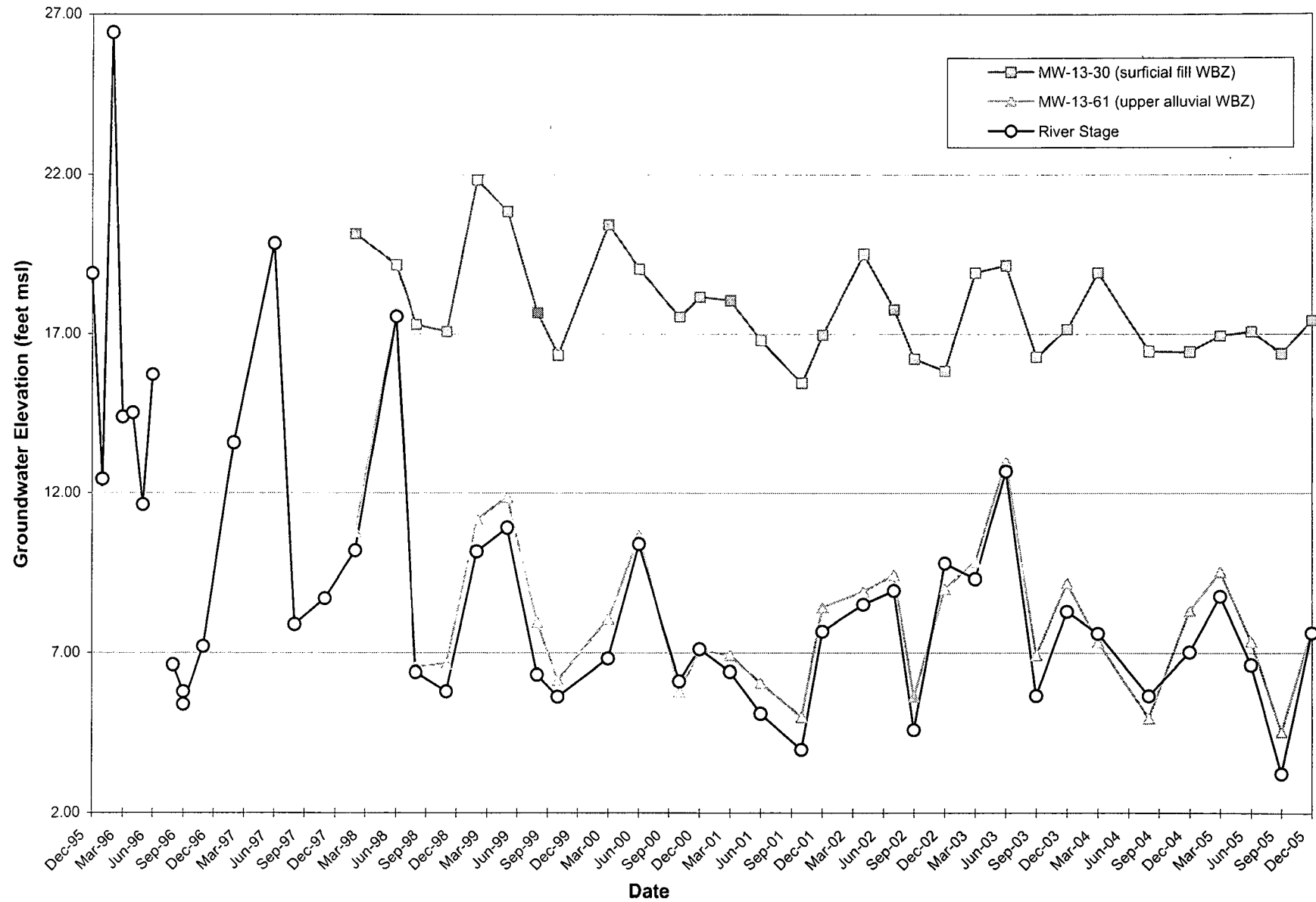
# Groundwater Hydrograph Well MW-11-32



# Groundwater Hydrograph Well MW-12-36

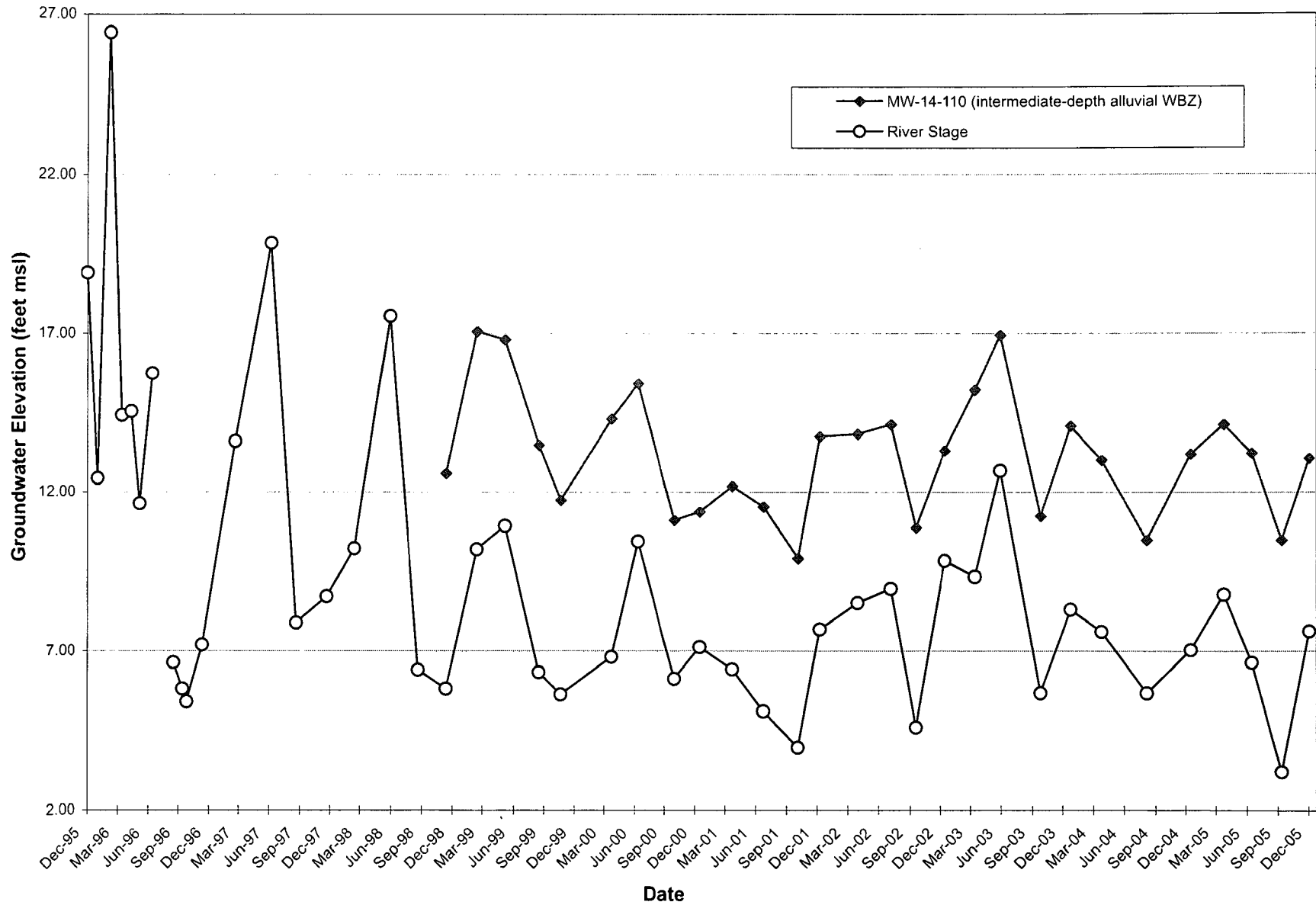


# Groundwater Hydrograph MW-13 Well Cluster

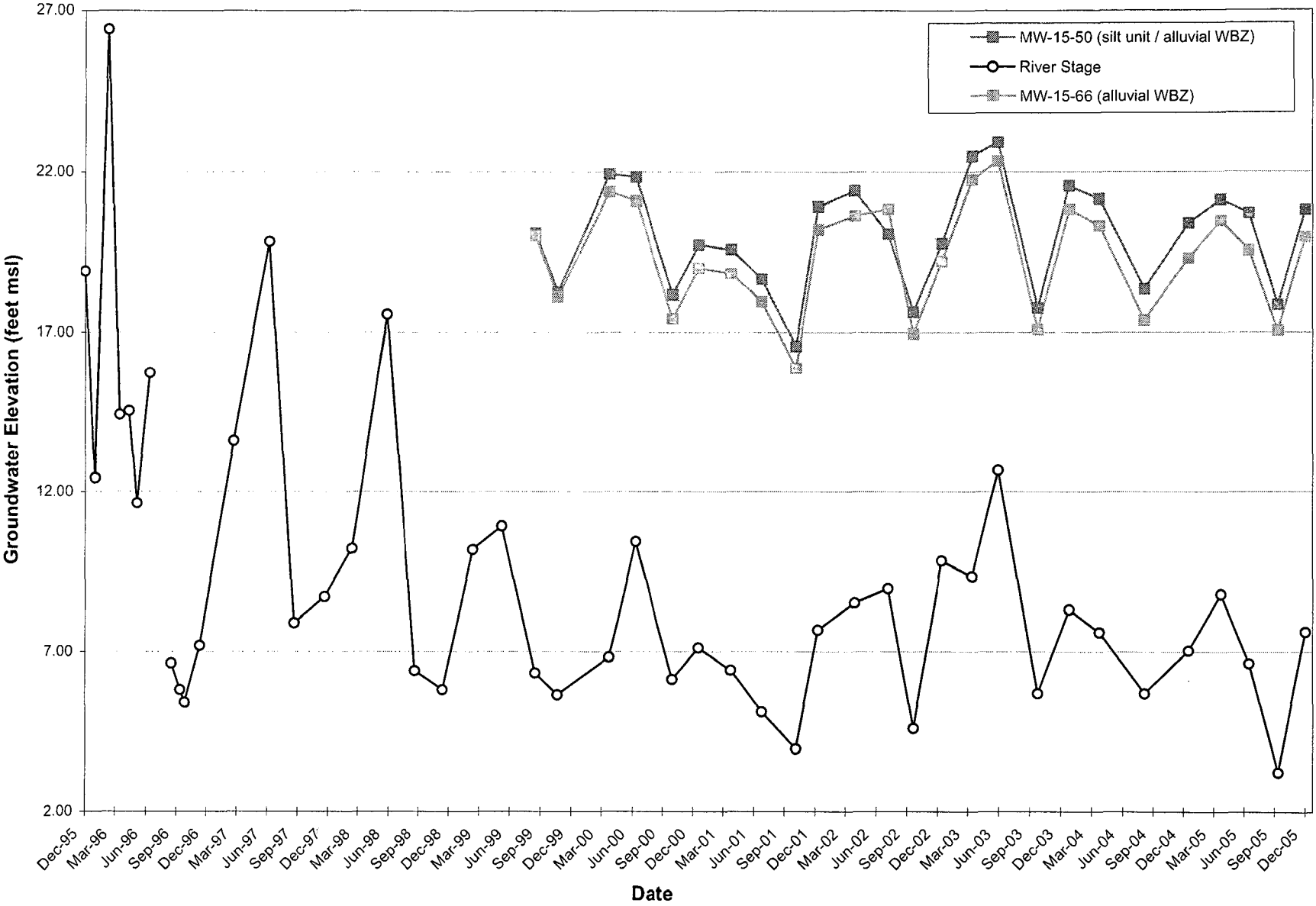


Koppers001449

# Groundwater Hydrograph Well MW-14-110



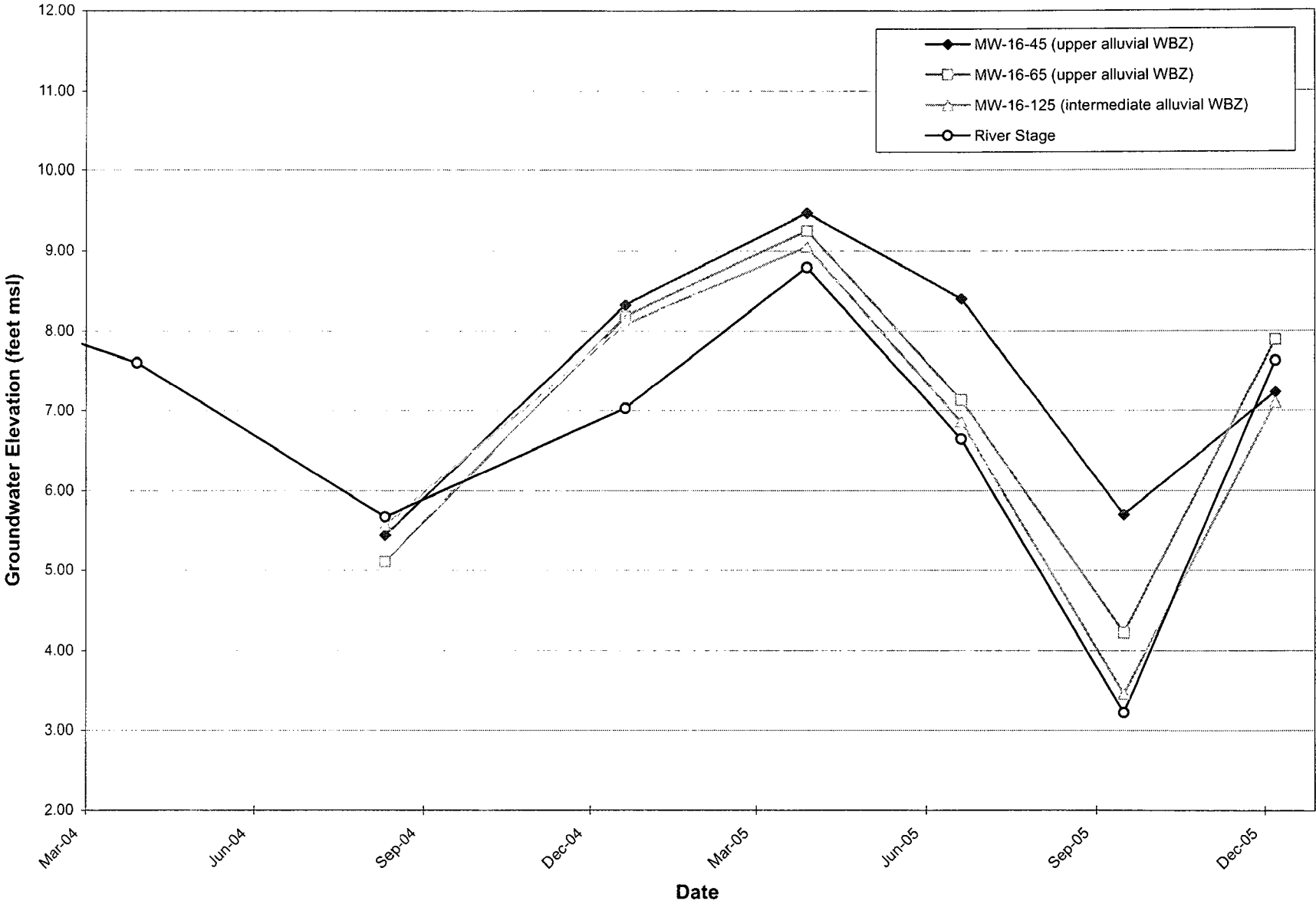
# Groundwater Hydrograph MW-15 Well Cluster



Koppers001451



# Groundwater Hydrograph MW-16 Well Cluster



Koppers001452

## **APPENDIX B**

**Monitoring Well Field Sampling Summary Sheets and Water Level / DNAPL Field Log –  
September and December 2005 Groundwater Monitoring Events**

**SEPTEMBER 2005 MONITORING EVENT**

---

HAHN AND ASSOCIATES, INC.

# Water Level Measurement Field Log

Site: Gasco - NNGGRI

Project No.: 2708-10  
 Date: 8/26/05 9/16/05  
 Measured by: Matt Graves  
 Device / Method: Solinst Water Level Meter

Well	Time	Water Level (ft btc)	Time	Water Level (ft btc)	Time	Water Level (ft btc)	Time	Water Level (ft btc)
MW-1-22	10:35	18.14	12:20	18.17				
MW-2-32	10:30	25.25	12:17	25.34				
MW-2-61	10:31	30.12	12:15	30.78				
MW-3-26	10:47	24.81	12:31	24.85				
MW-3-56	10:48	29.25	12:30	29.81				
MW-4-35	11:55	28.79	13:14	28.94				
MW-4-57	11:54	31.50	13:13	30.51				
MW-4-101	11:53	30.53	13:12	30.85				
MW-5-32	11:29	22.71	13:02	23.12				
MW-5-100	11:27	23.28	13:01	23.74				
MW-5-175	10:25	23.13	13:00	23.58				
MW-8-29	11:37	21.54	13:07	21.56				
MW-8-56	11:35	33.82	13:06	34.22				
MW-9-29	10:05	11.30	10:15	13.04				
MW-10-25	9:50	17.64'	10:11	17.63'				
MW-10-61	9:55	22.25'	10:10	22.31'				
MW-11-32	11:15	16.02	11:20	16.02				
MW-12-36	11:05	16.97	12:53	17.00				
MW-13-31	10:25	18.43	12:26	18.47				
MW-13-61	10:26	29.80	12:25	30.25				
MW-14-110	11:10	26.75	12:58	26.94				
MW-15-50	10:56	16.92	12:47	18.12				
MW-15-66	10:57	17.65	12:48	19.03				
MW-16-45	12:04	27.27	12:36	27.42				
MW-16-65	12:02	28.64	12:36	28.89				
MW-16-125	12:00	29.21	12:35	29.43				
MW-17-79	11:40	30.25	13:10	30.70				
MW-River	10:40	28.29	12:33	28.90				

ft btc = feet below top of casing

# Free Product Measurement Field Log

Site: Gasco-NNGGRI

Project No.: 2708-10  
 Date: 6/20/05 9/14/05  
 Measured by: Matt Graves  
 Device / Method: Watterra Interface Probe

Well	Time	Product Level (ft btc)	Water Level (ft btc)	Product Thickness (feet)	Time	Product Level (ft btc)	Water Level (ft btc)	Product Thickness (feet)
MW-1-22	10:35	/	18.14	/0				
MW-2-32	10:30	/	25.25	/0				
MW-2-61	10:31	/	30.12	/0				
MW-3-26	10:47	/	24.91	/0				
MW-3-56	10:48	/	29.25	/0				
MW-4-35	11:55	/	28.79	/0				
MW-4-57	11:54	/	31.50	/0				
MW-4-101	11:53	/	30.53	/0				
MW-5-32	1130	-	22.71	-0				
MW-5-100	1128	-	23.28	-0				
MW-5-175	1126	-	23.13	-0				
MW-8-29	1138	-	21.54	-0				
MW-8-56	1136	-	33.82	-0				
MW-9-29	10:55	/	11.30	/0				
MW-10-25	950	22.50'	17.64	2.50'				
MW-10-61	955	/	22.25	/0				
MW-11-32	11:15		16.02	1.25'				
MW-12-36	11:05	/	16.97	/0				
MW-13-31	10:25	/	18.43	/0				
MW-13-61	10:26	29.	29.80	/0				
MW-14-110	11:11	/	26.75	-0				
MW-15-50	10:56	/	16.92	/0				
MW-15-66	10:57	/	17.65	/0				
MW-16-45	1204		27.27	6.4'				
MW-16-65	1202	/	28.64	/0				
MW-16-125	1200	/	29.21	/0				
MW-17-79	11:40	/	30.25	/0				

ft btc = feet below top of casing

# Low-Flow Well Sampling Field Log

Well Number: MW-1-22

Page 1 of 1

Date: 9/28/05

<b>Project Information</b>	
Project Name:	NW Natural - Gasco Facility
HAI Project Number:	2708-30
<b>Sampling Information</b>	
Field Team:	Beuthel / Matt Groves
Purge Method:	Low Flow
Pump Intake Depth (ft btc):	20Ft
Flow-Through Cell:	Yes
Sampling Method:	Bladder Pump
Decontamination Method: Rinse, Alconox, Dilute Hexane, Rinse, Dilute Nitric, Rinse, Spray Isopropanol, Rinse, Spray De-ionized	
Purge Water Disposition:	AST
Field Conditions:	overcast, 60S, NW wind
Comments:	STRONG ODOR!!! (Carbon)

<b>Well Information</b>				Stick-up or Flush (circle one)	
Well Diameter (in)	Drilled Well Depth		Top of Screen		Screen Interval (ft bgs)
	(ft bgs)	(ft btc)	(ft bgs)	(ft btc)	
2"	22.00	24.80	11.00	13.80	11-21
<b>Purge Volume</b> (Only applicable if pump intake is above top of screen)					
Top Screen (ft btc)	Pump Intake (ft btc)	Top Screen - Pump Intake (ft)	Convert Factor (L/ft)	Minimum Purge Volume (Liters)	

3/4"=0.087 L/ft      2"=0.64 L/ft      4"=2.5 L/ft      6"=5.68 L/ft

<b>Sample Containers</b>				Filtered?
Number	Type	Preservative	Analytical Parameters	
✓ 2	1 L Amber	None	PAHs	N
✓ 3	VOAs	HCl	BTEX	N
✓ 1	500 mL	NaOH	Amenable CN	N
1	250 mL	HNO <sub>3</sub>	Total Metals	N

Well Purge Data										
Time	Volume Purged (Liters)	Purge Rate (Lpm)	DTW (ft btc)	Temp. (°C)	Conductivity (uS/cm)	D.O. (mg/L)	pH	ORP (mV)	Turbidity (NTUs)	Clarity/Color/Remarks
	Pump On		18.30	-	±3%	±10%	±0.1	±10mv	±10%	<= Stabilization Criteria
0859	1.5	1.5	18.75	12.87	2877	107.53	4.72	39.1	22.0	VC
0904	1.5	1.5	19.30	12.87	2875	32.74	4.03	44.6	4.6	AC
0909	2.5	2.5	20.15	12.78	2897	21.97	3.32	44.4	3.5	CC
0914	4.0	4.0	17.72	12.72	2902	13.05	3.08	37.1	4.1	CC
Start Sampling 0915										
End Sampling										
Sample Number:					2708-056928-MW-1-22-120					
Final										

Note: bgs= below ground surface btc=below top of casing DTW=depth to water Lpm=Liters per minute

Clarity: VC=very cloudy CI=cloudy SC=slightly cloudy AC=almost clear C=clear CC=crystal clear

$$3.7 \times 0.163 = 0.603 = 1 \text{ vol (gal)}$$

$$3.53 (0.163) = 0.57 \text{ gal} = 1 \text{ vol}$$

$$1.8093 = 3 \text{ vol}$$

$$1.72 = 3 \text{ vol}$$

# Low-Flow Well Sampling Field Log

Well Number: MW-2-32

Page 1 of 1

Date: 9/27/05

<b>Project Information</b>	
Project Name:	NW Natural - Gasco Facility
HAI Project Number:	2708-30
<b>Sampling Information</b>	
Field Team:	MW/BA
Purge Method:	Low Flow
Pump Intake Depth (ft btc):	27Ft
Flow-Through Cell:	Yes
Sampling Method:	Bladder Pump
Decontamination Method: Rinse, Alconox, Dilute Hexane, Rinse, Dilute Nitric, Rinse, Spray Isopropanol, Rinse, Spray De-Ionized	
Purge Water Disposition:	AST
Field Conditions:	SUNNY, 70's
Comments: $32 - 25.78 = 6.22 \times 0.17 = 1.05 \Rightarrow 7.317 \text{ GALLONS}$	

<b>Well Information</b>			Stick-up or <u>(Flush)</u> (circle one)		
Well Diameter (in)	Drilled Well Depth		Top of Screen		Screen Interval (ft bgs)
	(ft bgs)	(ft btc)	(ft bgs)	(ft btc)	
2"	32.50	31.20	21.50	20.20	21.5-31.5
<b>Purge Volume</b> (Only applicable if pump intake is above top of screen)					
Top Screen (ft btc)	Pump Intake (ft btc)	Top Screen - Pump Intake (ft)	Convert Factor (L/ft)	Minimum Purge Volume (Liters)	
/	/	/	/	/	

3/4"=0.087 L/ft      2"=0.64 L/ft      4"=2.5 L/ft      6"=5.68 L/ft

<b>Sample Containers</b>				Filtered?
Number	Type	Preservative	Analytical Parameters	
2	1 L Amber	None	PAHs	N
3	VOAs	HCl	BTEX	N
1	500 mL	NaOH	Amenable CN	N
1	250 mL	HNO <sub>3</sub>	Total Metals	N

Well Purge Data										
Time	Volume Purged (Liters)	Purge Rate (Lpm)	DTW (ft btc)	Temp. (°C)	Conductivity (uS/cm)	D.O. (mg/L)	pH	ORP (mV)	Turbidity (NTUs)	Clarity/Color/Remarks
	GALLONS Pump On		Initial 25.78	-	±3%	±10%	±0.1	±10mv	±10%	<= Stabilization Criteria
1430	0		26.10	21.17	471	15.57	7.15	28.8	55.0	SC
1435	.5		26.47	21.42	462	15.99	6.89	33.0	29.0	AC
1440	1.0		27.03	21.61	460	5.26	6.87	28.3	10.0	C
1445	2.0		27.16	21.89	461	3.22	6.85	30.6	5.17	C
1450	3.0		27.50	21.94	461	2.52	6.85	28.6	4.7	C
1455	3.5		27.68	21.97	461	1.94	6.56	29.8	3.40	C
1500	4.0		27.86	22.00	460	1.88	6.50	31.0	3.20	C
1505	4.5		28.08	22.06	460	1.85	6.39	31.5	3.80	C
1510	5.0		28.20	22.14	459	1.82	6.39	30.5	3.70	C
1515	5.5		28.29	22.19	459	1.81	6.39	30.5	4.50	C
# 5	WELL VOLUMES → STANDARD PURGE									
	Start Sampling	1515								
	End Sampling	1520								
		Final 29.29	Sample Number: 2708-050927-MW-2-32-118							

Note: bgs= below ground surface btc=below top of casing DTW=depth to water Lpm=Liters per minute  
Clarity: VC=very cloudy CI=cloudy SC=slightly cloudy AC=almost clear C=clear CC=crystal clear

# Monitoring Well Sampling Field Log

Well Number: MW-7-61

Page 1 of 1

Date: 9/26/05

<b>Project Information</b>
Project Name: GNSCO
HAI Project Number: 2708-32
<b>Sampling Information</b>
Field Team: MWL/BAU
Purge Method: Low Flow
Pump Intake Depth (ft btc): 55' BTC
Flow-Through Cell: YES
Sampling Method: BLADDER PUMP
Decontamination Method:
GNSCO 9-STEP
Purge Water Disposition: AST
Field Conditions: CLEAR, SUNNY
Comments:

<b>Well Information</b>				Stick-up or <u>Flush</u> (circle one)	
Well Diameter (in)	Drilled Well Depth (ft bgs) (ft btc)		Top of Screen (ft bgs) (ft btc)		Screen Interval (ft bgs)
2"					-
<b>Well Volume Calculation</b>					
Well Depth (ft btc)	DTW (ft btc)	Water Column (ft)	Convert Factor (gal/ft)	One Well Volume (gal)	Three Well Volumes (gal)
3/4"=0.023 gal/ft      2"=0.17 gal/ft      4"=0.66 gal/ft      6"=1.5 gal/ft					
<b>Sample Containers</b>					Filtered?
Number	Type	Preservative	Analytical Parameters		
3	VOAS	NCL	BTEX		N
2	ILAMBERS	PAH'S NONE	PAH'S		N
1	250 mL	HNO3	TOT. METALS		N
1	500 mL	NaOH	TOT. 3 AMEN. COMPO		N

Well Purge Data				Total Volume to Purge (gal) =							
Time	Volume Purged (gallons)	Purge Rate (gpm)	DTW (ft btc)	Temp. (°C)	Conductivity (uS/cm)	D.O. (mg/L)	pH	ORP (mV)	Turbidity (NTUs)	Clarity/Color/Remarks	
	Pump On		30.10	-	±3%	±10%	±0.1	±10mv	±10%	<= Stabilization Criteria	
1355	0		29.80	19.33	1206	116.49	8.77	28.0	>1,100	Turbid	
1400	1.0		29.80	19.10	1217	108.23	8.01	29.3	>1,100	"	
1405	2.0		29.80	19.03	1208	10.23	7.54	28.7	450	VC	
1410	3.0		29.80	19.01	1213	6.04	7.43	29.0	300	VC	
1415	4.0		29.80	19.01	1212	3.88	7.30	29.4	190	VC	
1420	5.0		29.80	19.00	1211	3.15	7.18	29.4	130	VC	
1425	6.0		29.80	18.97	1210	3.35	7.11	29.4	120	VC	
1430	7.0		29.80	18.98	1210	3.37	7.02	29.4	55	VC	
1435	8.0		29.80	18.96	1209	2.80	7.04	29.4	37	CL	
1440	9.0		29.80	18.99	1209	3.75	7.00	29.3	28	AC	
1445	10.0		29.80	18.96	1207	3.26	7.00	29.7	25	AC	
1450	11.0		29.80	18.97	1208	3.17	6.99	29.8	25	AC	
	Start Sampling	1500									
	End Sampling										
			Final								

Note: bgs= below ground surface btc=below top of casing DTW=depth to water gpm=gallons per minute  
Clarity: VC=very cloudy CL=cloudy SC=slightly cloudy AC=almost clear C=clear CC=crystal clear



# Low-Flow Well Sampling Field Log

Well Number: MW-3-26

Page 1 of 1

Date: 9/22/05

<b>Project Information</b>	
Project Name:	NW Natural - Gasco Facility
HAI Project Number:	2708-30
<b>Sampling Information</b>	
Field Team:	MWG/BAU
Purge Method:	Low Flow ✓
Pump Intake Depth (ft btc):	25Ft ✓
Flow-Through Cell:	Yes ✓
Sampling Method:	Bladder Pump ✓
Decontamination Method: Rinse, Alconox, Dilute Hexane, Rinse, Dilute Nitric, Rinse, Spray Isopropanol, Rinse, Spray De-Ionized	
Purge Water Disposition:	AST
Field Conditions:	Sunny, 70's, NW Wind ~10 mph
Comments: Well Dry @ 1410. <sup>WPH</sup> Will let recharge to collect samples. SAMPLED w/ DISPOSABLE BAILER	

<b>Well Information</b>					Stick-up or Flush (circle one)
Well Diameter (in)	Drilled Well Depth		Top of Screen		Screen Interval (ft bgs)
	(ft bgs)	(ft btc)	(ft bgs)	(ft btc)	
2"	26.00	28.90	15.00	17.90	15-25
<b>Purge Volume</b> (Only applicable if pump intake is above top of screen)					
Top Screen (ft btc)	Pump Intake (ft btc)	Top Screen - Pump Intake (ft)	Convert Factor (L/ft)	Minimum Purge Volume (Liters)	
3/4"=0.087 L/ft		2"=0.64 L/ft		4"=2.5 L/ft 6"=5.68 L/ft	
<b>Sample Containers</b>					Filtered?
Number	Type	Preservative	Analytical Parameters		
✓ 2	1 L Amber	None	PAHs		N
✓ 3	VOAs	HCl	BTEX		N
✓ 1	500 mL	NaOH	Amenable CN		N
✓ 1	250 mL	HNO <sub>3</sub>	Total Metals		N

Well Purge Data										
Time	Volume Purged (Liters)	Purge Rate (Lpm)	DTW (ft btc)	Temp. (°C)	Conductivity (uS/cm)	D.O. (mg/L)	pH	ORP (mV)	Turbidity (NTUs)	Clarity/Color/ Remarks
1340	<del>1336</del> Pump On		Initial 24.78	-	±3%	±10%	±0.1	±10mv	±10%	<= Stabilization Criteria
1345	1.90		BTOP	17.30	733	32.04	8.52	35.4	140	turbid
1350	1.25		BTOP	16.06	673	11.24	6.85	32.9	8.1	clearing
1355	1.50		BTOP	16.23	698	10.13	6.84	27.3	4.8	clearing
1400	1.75		BTOP	16.34	716	9.14	6.92	26.6	5.2	clear
1405	1.75		BTOP	16.83	736	8.21	6.88	27.0	5.6	clear
1410	WELL DRY		DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY
→ well let recharge before we collect samples →										
→ will collect samples w/in 24 hrs ←										

Note: bgs= below ground surface btc=below top of casing DTW=depth to water Lpm=Liters per minute  
Clarity: VC=very cloudy Cl=cloudy SC=slightly cloudy AC=almost clear C=clear CC=crystal clear

VOLUME CALCULATION:  $26 - 24.78 = 1.22 (0.163) = 0.19 \text{ gal} = 1 \text{ volume}$   
 $0.59 = 3 \text{ volumes}$   
 \* BTOP - Below Top of Pump.

# Low-Flow Well Sampling Field Log

Well Number:

MW-3-56

Page 1 of 1

Date:

9/22/05

<b>Project Information</b>	
Project Name:	NW Natural - Gasco Facility
HAI Project Number:	2708-30
<b>Sampling Information</b>	
Field Team:	Math Graves / Ben Uhl
Purge Method:	Low Flow ✓
Pump Intake Depth (ft btc):	50Ft ✓
Flow-Through Cell:	Yes ✓
Sampling Method:	Bladder Pump ✓
Decontamination Method: Rinse, Alconox, Dilute Hexane, Rinse, Dilute Nitric, Rinse, Spray Isopropanol, Rinse, Spray De-ionized	
Purge Water Disposition:	AST ✓
Field Conditions:	Sunny 70°s F NW Wind ~ 5mph
Comments:	

<b>Well Information</b>			Stick-up or Flush (circle one)		
Well Diameter (in)	Drilled Well Depth		Top of Screen		Screen Interval (ft bgs)
	(ft bgs)	(ft btc)	(ft bgs)	(ft btc)	
2"	56.00	58.90	45.00	47.90	45-55
<b>Purge Volume</b> (Only applicable if pump intake is above top of screen)					
Top Screen (ft btc)	Pump Intake (ft btc)	Top Screen - Pump Intake (ft)	Convert Factor (L/ft)	Minimum Purge Volume (Liters)	
—	—	—	—	—	

3/4"=0.087 L/ft

2"=0.64 L/ft

4"=2.5 L/ft

6"=5.68 L/ft

<b>Sample Containers</b>				Filtered?
Number	Type	Preservative	Analytical Parameters	
✓ 2	1 L Amber	None	PAHs	N
✓ 3	VOAs	HCl	BTEX	N
✓ 1	500 mL	NaOH	Amenable CN	N
✓ 1	250 mL	HNO <sub>3</sub>	Total Metals	N

Well Purge Data										
Time	Volume Purged (Liters)	Purge Rate (Lpm)	DTW (ft btc)	Temp. (°C)	Conductivity (uS/cm)	D.O. (mg/L)	pH	ORP (mV)	Turbidity (NTUs)	Clarity/Color/Remarks
1440	3.0 Liters Pump On	1447	28.42 Initial	-	±3%	±10%	±0.1	±10mv	±10 NTU ±40%	≤ Stabilization Criteria
1450	1.1		28.42	16.99	771	16.80	7.77	35.4	150.0	Extremely turbid
1455	0.3		28.42	15.56	797	10.93	7.25	31.0	36.0	"
1500	0.7		28.42	15.45	818	7.12	7.16	27.7	23.0	"
1505	1.0		28.42	15.47	832	6.23	7.15	27.3	16.0	"
1515	1.25		28.42	15.45	839	6.07	7.16	27.4	12.0	"
1520	1.50		29.47	15.40	839	4.79	7.24	25.8	12.0	"
1525	1.75		29.47	15.38	844	5.09	7.24	25.8	10.0	"
1530	2.50		29.47	15.36	844	5.33	7.20	26.8	10.0	"
1535	3.50		29.47	15.35	846	5.44	7.22	25.3	8.7	"
1540	4.5		29.47	15.35	844	5.46	7.22	25.6	11.0	"
Start Sampling 1545										
End Sampling			Sample Number: 2708-0509.22-MW-3-56-106							
			Final							

Note: bgs= below ground surface btc=below top of casing DTW=depth to water Lpm=Liters per minute  
Clarity: VC=very cloudy Cl=cloudy SC=slightly cloudy AC=almost clear C=clear CC=crystal clear

VOLUME CALCULATION:  $56.00 - 28.42 = 27.58 (0.163) = 4.49 \text{ gal} = 1 \text{ volume}$   
 $\frac{13.48}{3} = 3 \text{ volumes}$

# Low-Flow Well Sampling Field Log

Well Number: MW-4-35

Page 1 of 1

Date: 9/28/05

<b>Project Information</b>	
Project Name:	NW Natural - Gasco Facility
HAI Project Number:	2708-30
<b>Sampling Information</b>	
Field Team:	MWG/DAU
Purge Method:	Low Flow
Pump Intake Depth (ft btc):	30Ft
Flow-Through Cell:	Yes
Sampling Method:	Bladder Pump
Decontamination Method: Rinse, Alconox, Dilute Hexane, Rinse, Dilute Nitric, Rinse, Spray Isopropanol, Rinse, Spray De-Ionized	
Purge Water Disposition:	AST
Field Conditions:	CLEAR, 70's
Comments:	Strong odor (H <sub>2</sub> S)

<b>Well Information</b>					(Stick-up) or Flush (circle one)
Well Diameter (in)	Drilled Well Depth		Top of Screen		Screen Interval (ft bgs)
	(ft bgs)	(ft btc)	(ft bgs)	(ft btc)	
2"	35.00	37.80	24.00	26.80	24-34
<b>Purge Volume</b> (Only applicable if pump intake is above top of screen)					
Top Screen (ft btc)	Pump Intake (ft btc)	Top Screen - Pump Intake (ft)	Convert Factor (L/ft)	Minimum Purge Volume (Liters)	

3/4"=0.087 L/ft      2"=0.64 L/ft      4"=2.5 L/ft      6"=5.68 L/ft

<b>Sample Containers</b>				Filtered?
Number	Type	Preservative	Analytical Parameters	
2	1 L Amber	None	PAHs	N
3	VOAs	HCl	BTEX	N
1	500 mL	NaOH	Amenable CN	N
1	250 mL	HNO <sub>3</sub>	Total Metals	N

Well Purge Data										
Time	Volume Purged (Liters)	Purge Rate (Lpm)	DTW (ft btc)	Temp. (°C)	Conductivity (uS/cm)	D.O. (mg/L)	pH	ORP (mV)	Turbidity (NTUs)	Clarity/Color/Remarks
	Pump On		2.03	-	±3%	±10%	±0.1	±10mv	±10%	<= Stabilization Criteria
1336	1.1		BTOP	14.56	2203	16.04	7.90	43.2	71,100	VC
1341	1.0		BTOP	14.45	2261	12.20	7.63	43.9	70	CI
1346	2.0		BTOP	14.32	2578	5.93	7.36	42.6	19	C
1351	3.0		BTOP	14.28	2640	3.51	7.30	39.9	20	C
1356	4.0		BTOP	14.45	2497	2.99	7.29	38.0	22	C
1401	5.0		BTOP	14.61	2291	2.18	7.33	35.8	22	C
1406	6.0		BTOP	14.64	2245	2.09	7.34	36.2	22	C
1411	7.0		BTOP	14.64	2218	2.08	7.34	36.2	23	C
1416	8.0		BTOP	14.66	2190	2.10	7.34	36.1		C
1421	9.0	(BW)								
Start Sampling 1425										
End Sampling			Sample Number: 2708-050928-MW4-35-123							
Final										

Note: bgs= below ground surface    btc=below top of casing    DTW=depth to water    Lpm=Liters per minute  
Clarity: VC=very cloudy    CI=cloudy    SC=slightly cloudy    AC=almost clear    C=clear    CC=crystal clear

\* BTOP= Below Top of Pump  

$$37.8 - 27.05 = 10.03 (0.163) = 1.63 \text{ gal} = 1 \text{ vol}$$

$$4.89 \text{ gal} = 3 \text{ vol}$$

# Low-Flow Well Sampling Field Log

Well Number: MW-4-57

Page 1 of 1

Date: 10/3/05

<b>Project Information</b>	
Project Name:	NW Natural - Gasco Facility
HAI Project Number:	2708-30
<b>Sampling Information</b>	
Field Team:	Ben Uhl / Matt Graves
Purge Method:	Low Flow ✓
Pump Intake Depth (ft btc):	50Ft ✓
Flow-Through Cell:	Yes
Sampling Method:	Gravel Bladder Pump ✓
Decontamination Method: Rinse, Alconox, Dilute Hexane, Rinse, Dilute Nitric, Rinse, Spray Isopropanol, Rinse, Spray De-Ionized	
Purge Water Disposition:	AST ✓
Field Conditions:	Overcast 60°F, No wind
Comments:	No product appearance

<b>Well Information</b>		Stick-up or Flush (circle one)	
Well Diameter (in)	Drilled Well Depth		Top of Screen
	(ft bgs)	(ft btc)	(ft bgs) (ft btc)
2"	57.00	59.80	46.00 48.80
Screen Interval (ft bgs)			
46-56			
<b>Purge Volume</b> (Only applicable if pump intake is above top of screen)			
Top Screen (ft btc)	Pump Intake (ft btc)	Top Screen - Pump Intake (ft)	Convert Factor (L/ft)
46	50'	50'	—

3/4"=0.087 L/ft				2"=0.64 L/ft		4"=2.5 L/ft		6"=5.68 L/ft	
<b>Sample Containers</b>									
Number	Type	Preservative	Analytical Parameters		Filtered?				
2 ✓	1 L Amber	None	PAHs		N				
3 ✓	VOAs	HCl	BTEX		N				
1 ✓	500 mL	NaOH	Amenable CN		N				
1 ✓	250 mL	HNO <sub>3</sub>	Total Metals		N				

Well Purge Data										
Time	Volume Purged (Liters)	Purge Rate (Lpm)	DTW (ft btc)	Temp. (°C)	Conductivity (uS/cm)	D.O. (mg/L)	pH	ORP (mV)	Turbidity (NTUs)	Clarity/Color/Remarks
1113	gall. Pump On		26.08 Initial	-	±3%	±10%	±0.1	±10mv	±10%	<= Stabilization Criteria
1120		1.0	31.50	13.5	1077	0.51	6.64	—	33	AC
1125		2.0	31.50	14.4	1169	0.37	6.65	—	27	C
1130		3.0	31.50	13.2	1173	0.32	6.77	—	17	C
1135		4.0	31.50	14.6	1177	0.29	6.69	—	10	C
1140		5.0	31.50	14.6	1168	0.27	6.69	—	9.2	C
1145		6.0	31.50	14.3	1169	0.26	6.70	—	9.2	C
1150			31.50	14.4	1165	0.26	6.69	—	9.1	C
Start Sampling 1155										
End Sampling 1208										
Sample Number: 2708-051003-MW-4-57-133										
			31.50 Final							

Note: bgs= below ground surface btc=below top of casing DTW=depth to water Lpm=Liters per minute  
Clarity: VC=very cloudy Cl=cloudy SC=slightly cloudy AC=almost clear C=clear CC=crystal clear

# Low-Flow Well Sampling Field Log

Well Number: MW-4-101  
Date: 7/28/05

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<b>Project Information</b>	
Project Name:	NW Natural - Gasco Facility
HAI Project Number:	2708-30
<b>Sampling Information</b>	
Field Team:	MW/BAU
Purge Method:	Low Flow ✓
Pump Intake Depth (ft btc):	95ft ✓
Flow-Through Cell:	Yes ✓
Sampling Method:	Bladder Pump ✓
Decontamination Method: Rinse, Alconox, Dilute Hexane, Rinse, Dilute Nitric, Rinse, Spray Isopropanol, Rinse, Spray De-ionized	
Purge Water Disposition:	AST
Field Conditions:	Sunny, 70's
Comments: Strong rxn w/ sample preservatives	

<b>Well Information</b>					(Stick-up) or Flush (circle one)
Well Diameter (in)	Drilled Well Depth (ft bgs) (ft btc)		Top of Screen (ft bgs) (ft btc)		Screen Interval (ft bgs)
2"	120.00	122.60	89.50	92.10	89.5-99.5
<b>Purge Volume</b> (Only applicable if pump intake is above top of screen)					
Top Screen (ft btc)	Pump Intake (ft btc)	Top Screen - Pump Intake (ft)	Convert Factor (L/ft)	Minimum Purge Volume (Liters)	

3/4"=0.087 L/ft      2"=0.64 L/ft      4"=2.5 L/ft      6"=5.68 L/ft

<b>Sample Containers</b>				Filtered?
Number	Type	Preservative	Analytical Parameters	
✓ 2	1 L Amber	None	PAHs	N
✓ 3	VOAs	HCl	BTEX	N
✓ 1	500 mL	NaOH	Amenable CN	N
✓ 1	250 mL	HNO <sub>3</sub>	Total Metals	N

<b>Well Purge Data</b>										
Time	Volume Purged (Liters)	Purge Rate (Lpm)	DTW (ft btc)	Temp. (°C)	Conductivity (uS/cm)	D.O. (mg/L)	pH	ORP (mV)	Turbidity (NTUs)	Clarity/Color/Remarks
	Galvanic Pump On		31.35	-	±3%	±10%	±0.1	±10mv	±10%	<= Stabilization Criteria
1235	0		31.40	16.29	1220	300.81	7.91	39.9	13.0	VC CC
1239	1.0		31.40	14.49	1175	126.74	7.49	41.2	3.7	CC
1243	2.0		31.40	14.37	1171	115.2	7.33	38.3	2.8	CC
1247	3.0		31.40	14.33	1170	6.45	7.32	35.7	2.9	CC
1252	4.0		31.40	14.31	1169	4.23	7.32	34.6	3.4	CC
1257	5.0		31.40	14.29	1168	5.83	7.35	34.6	3.6	CC
1302	6.0		31.40	14.28	1174	5.58	7.33	34.7	3.1	CC
1307	7.0		31.40	14.25	1172	5.46	7.29	34.6	3.0	CC
Start Sampling 1310										
End Sampling 1321										
Sample Number: 2708-050928-MW4-101-122										
Final										

Note: bgs= below ground surface    btc=below top of casing    DTW=depth to water    Lpm=Liters per minute  
Clarity: VC=very cloudy    Cl=cloudy    SC=slightly cloudy    AC=almost clear    C=clear    CC=crystal clear

# Low-Flow Well Sampling Field Log

Well Number: MW-5-32  
Date: 9/27/05

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<b>Project Information</b>	
Project Name:	NW Natural - Gasco Facility
HAI Project Number:	2708-30
<b>Sampling Information</b>	
Field Team:	MWG/BAN
Purge Method:	Low Flow
Pump Intake Depth (ft btc):	25Ft
Flow-Through Cell:	Yes
Sampling Method:	Bladder Pump
Decontamination Method: Rinse, Alconox, Dilute Hexane, Rinse, Dilute Nitric, Rinse, Spray Isopropanol, Rinse, Spray De-Ionized	
Purge Water Disposition:	AST
Field Conditions:	SUNNY, 70's
Comments: $8.72 \times 0.17 = 1.42 \times 3 = 4.26$ Purge: STANDARD PURGE DUE TO DRIP, J, DTW	

<b>Well Information</b>			Stick-up or Flush (circle one)		
Well Diameter (in)	Drilled Well Depth		Top of Screen		Screen Interval (ft bgs)
	(ft bgs)	(ft btc)	(ft bgs)	(ft btc)	
2"	32.00	/	21.00	23.70	21-31
<b>Purge Volume</b> (Only applicable if pump intake is above top of screen)					
Top Screen (ft btc)	Pump Intake (ft btc)	Top Screen - Pump Intake (ft)	Convert Factor (L/ft)	Minimum Purge Volume (Liters)	
21	25	/	/	/	
3/4"=0.087 L/ft		2"=0.64 L/ft	4"=2.5 L/ft	6"=5.68 L/ft	

Sample Containers				Filtered?
Number	Type	Preservative	Analytical Parameters	
2	1 L Amber	None	PAHs	N
3	VOAs	HCl	BTEX	N
1	500 mL	NaOH	Amenable CN	N
1	250 mL	HNO <sub>3</sub>	Total Metals	N

Well Purge Data										
Time	Volume Purged (Liters)	Purge Rate (Lpm)	DTW (ft btc)	Temp. (°C)	Conductivity (uS/cm)	D.O. (mg/L)	pH	ORP (mV)	Turbidity (NTUs)	Clarity/Color/Remarks
	GALLONS Pump On		Initial		±3%	±10%	±0.1	±10mv	±10%	<= Stabilization Criteria
1330	0		23.28	-						
1335	1.0		23.56	15.16	757	175.23	8.04	36.7	95.0	CL
1340	2.0		24.40	14.24	733	22.37	7.56	39.5	45.0	SC
1345	3.0		25.04	14.15	737	7.62	7.45	37.7	55.0	SC
1350	4.0		25.55	14.10	744	6.18	7.42	37.3	60.0	SC
1355	5.0		25.95	14.09	748	5.34	7.39	36.8	50.0	SC
1400	6.0		26.32	14.09	749	4.75	7.34	36.8	60.0	SC
1405	7.0		26.62	14.07	747	2.03	7.31	36.9	80.0	SC
1410	7.0		26.71	14.06	745	1.86	7.28	36.9	90.0	SC
* 5 WELL VOLUMES										
Start Sampling 1405										
End Sampling 1410			Sample Number: 2708-050927-MW-S-32-117							
			Final							
			26.79							

Note: bgs= below ground surface btc=below top of casing DTW=depth to water Lpm=Liters per minute  
Clarity: VC=very cloudy Cl=cloudy SC=slightly cloudy AC=almost clear C=clear CC=crystal clear

# Low-Flow Well Sampling Field Log

Well Number:

MW-5-100

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Date:

9/21/05

<b>Project Information</b>	
Project Name:	NW Natural - Gasco Facility
HAI Project Number:	2708-30
<b>Sampling Information</b>	
Field Team:	MWG/BAU
Purge Method:	Low Flow
Pump Intake Depth (ft btc):	90ft ✓
Flow-Through Cell:	Yes ✓
Sampling Method:	GRUNDFOSS Bladder Pump 110 Hz
Decontamination Method: Rinse, Alconox, Dilute Hexane, Rinse, Dilute Nitric, Rinse, Spray Isopropanol, Rinse, Spray De-Ionized	
Purge Water Disposition:	AST ✓
Field Conditions: Sunny 70's °F, no wind	
Comments: DO probe malfunction, needs new membrane.	

<b>Well Information</b> (Stick-up) or Flush (circle one)					
Well Diameter (in)	Drilled Well Depth		Top of Screen		Screen Interval (ft bgs)
	(ft bgs)	(ft btc)	(ft bgs)	(ft btc)	
2"	100.00		88.00		88-98
<b>Purge Volume</b> (Only applicable if pump intake is above top of screen)					
Top Screen (ft btc)	Pump Intake (ft btc)	Top Screen - Pump Intake (ft)		Convert Factor (L/ft)	Minimum Purge Volume (Liters)
		SEE BELOW			
3/4"=0.087 L/ft      2"=0.34 L/ft      4"=2.5 L/ft      6"=5.68 L/ft					
<b>Sample Containers</b>					Filtered?
Number	Type	Preservative	Analytical Parameters		
✓ 2	1 L Amber	None	PAHs		N
✓ 3	VOAs	HCl	BTEX		N
✓ 1	500 mL	NaOH	Amenable CN		N
✓ 1	250 mL	HNO <sub>3</sub>	Total Metals		N

Well Purge Data										
Time	Volume Purged (Liters)	Purge Rate (Lpm)	DTW (ft btc)	Temp. (°C)	Conductivity (uS/cm)	D.O. (mg/L)	pH	ORP (mV)	Turbidity (NTUs)	Clarity/Color/Remarks
	Start Pump On		Initial 22.61	-	±3%	±10%	±0.1	±10mv	±10%	Stabilization Criteria
1505	0	INT	23.03	15.76	1295	6.28.00*	6.94	3.8	4.4	Flores/Bubbles
1510	2.5		23.03	15.93	1304	12.83*	6.15	19.5	1.3	"/"/"
1515	4.0		23.06	16.12	1304	9.97*	5.97	21.2	1.4	"/"/"clear
1520	5.5		23.06	16.17	1303	7.56*	5.87	21.4	1.0	"/"/"/"
1525	7.0		23.09	16.20	1304	7.05*	5.79	21.6	0.95	"/"/"/"
1530	9.0		23.11	16.29	1308	6.76*	5.67	22.7	3.2	"/"/"/"
1535	10.5		23.13	16.36	1306	6.72*	5.65	22.6	2.4	clear
1540	12.0		23.15	16.30	1301	6.80*	5.62	22.7	0.55	clear
1545	14.5		23.13	16.33	1300	6.83*	5.62	22.8	0.75	clear
1550	16.0		23.17	16.38	1294	6.87*	5.61	22.0	1.80.55	clear
			22.05							
Start Sampling 1555										
End Sampling 1610			Sample Number: 2708-050921-MW-5-100-102							
			Final 22.05							

Note: bgs= below ground surface btc=below top of casing DTW=depth to water Lpm=Liters per minute

Clarity: VC=very cloudy Cl=cloudy SC=slightly cloudy AC=almost clear C=clear CC=crystal clear

\* NO PROBE MALFUNCTION; NEEDS REPAIR/MEMBRANE

VOLUME CALCULATION:  $100 - 22.61 = 77.39$  (0.163) = 12.61 gal = 1 volume  
 $\frac{37.83}{3} = 3$  volumes

# Monitoring Well Sampling Field Log

Well Number: MW-5-175

Page 1 of 1

Date: 9/21/05

<b>Project Information</b>	
Project Name:	NW Natural - Gasco Facility
HAI Project Number:	2708-30
<b>Sampling Information</b>	
Field Team:	Matt Graves / Ben Uhl
Purge Method:	Standard Low Flow
Pump Intake Depth (ft btc):	405 ft 177 (167)
Flow-Through Cell:	Yes
Sampling Method:	Grundfos Pump
Decontamination Method: Rinse, Alconox, Dilute Hexane, Rinse, Dilute Nitric, Rinse, Spray Isopropanol, Rinse, Spray De-Ionized	
Purge Water Disposition:	AST
Field Conditions:	SUNNY, 70's
Comments: RESTARTED PUMPING AT 1338	
D.O. READING OFF, LOWERED PUMP TO	
170' bgs. & meter malfunction 109 Hz	

<b>Well Information</b> (Stick-up or Flush (circle one))					
Well Diameter (in)	Drilled Well Depth (ft bgs)	Drilled Well Depth (ft btc)	Top of Screen (ft bgs)	Top of Screen (ft btc)	Screen Interval (ft bgs)
2	175	177	163	165	163-173
<b>Well Volume Calculation</b>					
Well Depth (ft btc)	DTW (ft btc)	Water Column (ft)	Convert Factor (gal/ft)	One Well Volume (gal)	Three Well Volumes (gal)
177	21.81	21.81	0.17	SEE BELOW	SEE BELOW
3/4"=0.023 gal/ft 2"=0.17 gal/ft 4"=0.66 gal/ft 6"=1.5 gal/ft					
<b>Sample Containers</b>					Filtered?
Number	Type	Preservative	Analytical Parameters		
✓ 2	1 L Amber	None	PAHs		N
✓ 3	VOAs	HCl	BTEX		N
✓ 1	500 mL	NaOH	TOTAL/Amenable CN		N
✓ 1	250 mL	HNO <sub>3</sub>	Total Metals		N

Well Purge Data		Total Volume to Purge (gal) =								
Time	Volume Purged (gallons)	Purge Rate (gpm)	DTW (ft btc)	Temp. (°C)	Conductivity (uS/cm)	D.O. (mg/L)	pH	ORP (mV)	Turbidity (NTUs)	Clarity/Color/Remarks
	Pump On		21.81	-	±3%	±10%	±0.1	±10mv	±10%	<= Stabilization Criteria
1300	0		22.76	15.20	839		6.05	24.7	6.6	C
1305	1		23.41	15.52	859		6.00	23.0	5.5	C
1310	2		22.66	16.21	878		6.09	16.2	3.2	C
1315	3		22.64	16.24	873		6.02	18.9	0.90	C
1330	0		23.60	15.15	857		6.07	20.6	6.50	C
1335	1.5		23.60	15.30	863		5.94	21.0	1.20	C
1340	2.5		23.09	15.75	870		5.89	19.9	0.75	C
1345	3.0		22.90	15.70	873		5.97	18.3	0.40	C
1350	3.6		22.87	15.70	870		5.97	18.5	0.50	C
1355	4.0		22.79	15.86	873		6.00	17.9	0.50	C
1400	4.5		22.74	15.95	874		6.03	17.8	0.50	C
Start Sampling 1405										
End Sampling 1415		Sample Number: 2708-050921-MW5-175-101								
			22.87							

Note: bgs= below ground surface btc=below top of casing DTW=depth to water gpm=gallons per minute  
Clarity: VC=very cloudy CI=cloudy SC=slightly cloudy AC=almost clear C=clear CC=crystal clear

VOLUME CALCULATION:  $177 - 21.81 = 155.19 (0.163) = 25.29 = 1 \text{ volume (gal)}$   
 $\frac{75.87}{3} = 3 \text{ volumes (gal)}$





# Low-Flow Well Sampling Field Log

Well Number: MW-8-56

Page 1 of 1

Date: 9/29/05

<b>Project Information</b>	
Project Name:	NW Natural - Gasco Facility
HAI Project Number:	2708-30
<b>Sampling Information</b>	
Field Team:	Ben Uhl
Purge Method:	Low Flow
Pump Intake Depth (ft btc):	48'
Flow-Through Cell:	Yes
Sampling Method:	Grundfos Pump
Decontamination Method:	Rinse, Alconox, Dilute Hexane, Rinse, Dilute Nitric, Rinse, Spray Isopropanol, Rinse, Spray De-Ionized
Purge Water Disposition:	AST
Field Conditions:	Overcast 60°F, No wind
Comments:	Tarry odor. Purge water is dark black → grey. Seen in purge bucket.

<b>Well Information</b>					Stick-up or Flush (circle one)	
Well Diameter (in)	Drilled Well Depth (ft bgs) (ft btc)		Top of Screen (ft bgs) (ft btc)		Screen Interval (ft bgs)	
2"	56.00	58.60	45.00	47.60	45 - 55	
<b>Purge Volume</b> (Only applicable if pump intake is above top of screen)						
Top Screen (ft btc)	Pump Intake (ft btc)	Top Screen - Pump Intake (ft)	Convert Factor (L/ft)	Minimum Purge Volume (Liters)		
45	48'	48'	—	—		
3/4"=0.087 L/R		2"=0.64 L/R	4"=2.5 L/R	6"=5.68 L/R		
<b>Sample Containers</b>					Filtered?	
Number	Type	Preservative	Analytical Parameters			
2	1 L Amber	None	PAHs		N	
3	VOAs	HCl	BTEX		N	
1	500 mL	NaOH	Total and Amenable CN		N	
1	250 mL	HNO <sub>3</sub>	Total Metals		N	

Well Purge Data										
Time	Volume Purged (Liters)	Purge Rate (Lpm)	DTW (ft btc)	Temp. (°C)	Conductivity (uS/cm)	D.O. (mg/L)	pH	ORP (mV)	Turbidity (NTUs)	Clarity/Color/Remarks
	Jellums Pump On		Initial	-	±3%	±10%	±0.1	±10mv	±10%	<= Stabilization Criteria
1442	INT		36.75	17.68	1882	4726	9.99	36.2	900	VC
1447	0.5		37.00	18.68	1942	17.80	8.90	36.0	600	VC
1452	1.0		37.00	19.23	1967	4.32	8.65	33.7	210	VC
1457	1.5		37.00	18.80	1942	3.19	8.60	33.8	160	VC
1502	2.0		37.00	18.58	1927	2.74	8.51	34.6	140	VC
1507	2.5		37.00	18.48	1913	2.17	8.19	35.1	75	SC
1512	3.0		37.00	18.48	1910	2.29	8.15	35.0	55	SC
1517	3.5		37.00	18.50	1909	2.33	8.11	35.0	50	SC
1522	4.0		37.00	18.51	1910	2.30	8.10	35.1	50	SC
15										
Start Sampling 1525										
End Sampling 1545			Sample Number: 2708-050929-MW-8-56-128							
			Final							
			37.00							

Note: bgs= below ground surface btc=below top of casing DTW=depth to water Lpm=Liters per minute  
Clarity: VC=very cloudy Cl=cloudy SC=slightly cloudy AC=almost clear C=clear CC=crystal clear

# Low-Flow Well Sampling Field Log

Page 1 of 1

Well Number: MW-9-29  
Date: 9/26/05

<b>Project Information</b>
Project Name:
HAI Project Number:
<b>Sampling Information</b>
Field Team: MWG/BAU
Purge Method: Low Flow
Pump Intake Depth (ft btc): 23
Flow-Through Cell: YES
Sampling Method: BLADDER PUMP
Decontamination Method:
CASCO 9-STEP
Purge Water Disposition: ON-SITE ACT
Field Conditions: CLEAR, SUNNY
<b>Comments:</b>
B.T.O.P. BELOW TOP OF PUMP

<b>Well Information</b>		Stick-up or <u>Flush</u> (circle one)	
Well Diameter (in)	Drilled Well Depth (ft bgs) (ft btc)	Top of Screen (ft bgs) (ft btc)	Screen Interval (ft bgs)
2"			
<b>Purge Volume</b> (Only applicable if pump intake is above top of screen)			
Top Screen (ft btc)	Pump Intake (ft btc)	Top Screen - Pump Intake (ft)	Convert Factor (L/ft) Minimum Purge Volume (Liters)

3/4"=0.087 L/ft 2"=0.64 L/ft 4"=2.5 L/ft 6"=5.68 L/ft

<b>Sample Containers</b>				Filtered?
Number	Type	Preservative	Analytical Parameters	
3	VOAS	HCL	BTEX	N
2	ILAMBERS	NONE	PAH'S	N
1	250 ML	HNO3	TOT. METALS	N
1	500 ML	NaOH	TOT. AMEN. CYANIDE	N

Well Purge Data										
Time	Volume Purged (Liters)	Purge Rate (Lpm)	DTW (ft btc)	Temp. (°C)	Conductivity (uS/cm)	D.O. (mg/L)	pH	ORP (mV)	Turbidity (NTUs)	Clarity/Color/Remarks
	Pump On		Initial 13.90	-	±3%	±10%	±0.1	±10mv	±10%	<= Stabilization Criteria
0905	0		15.66	14.61	274	193.2	7.28	25.7	120.0	cloudy
0910	1.5		17.90	14.42	262	51.18	6.71	36.5	45.0	CL
0915	3.0		19.52	14.31	268	48.62	6.79	35.7	60.0	CL
0930	4.5		BTOP	14.17	264	14.72	6.64	33.7	60.0	CL
0935	5.5		BTOP	14.18	263	8.66	6.54	33.3	60.0	CL
0940	6.5		BTOP	14.19	263	7.56	6.54	32.2	37.0	SC
0945	7.5		BTOP	14.21	263	8.38	6.54	31.3	39.0	AC
0950	8.5		BTOP	14.21	264	8.52	6.53	36.8	30.0	AC
0955	9.5		BTOP	14.22	263	7.70	6.53	30.2	30.0	AC
1000	10.0		BTOP	14.22	264	7.53	6.55	30.0	29.0	AC
1005	10.5		BTOP	14.23	264	7.51	6.55	29.7	28.0	AC
Start Sampling 10:10										
End Sampling 10:15										
Sample Number: 24 2708-04260 050926-MW9-29-109										
			Final 20.04							

Note: bgs= below ground surface btc=below top of casing DTW=depth to water Lpm=Liters per minute  
Clarity: VC=very cloudy CL=cloudy SC=slightly cloudy AC=almost clear C=clear CC=crystal clear

# Low-Flow Well Sampling Field Log

Well Number: MW-10-61

Page 1 of 1

Date: 9/23/05

<b>Project Information</b>	
Project Name:	NW Natural - Gasco Facility
HAI Project Number:	2708-30
<b>Sampling Information</b>	
Field Team:	Ben Whit / Matt Graves
Purge Method:	Low Flow
Pump Intake Depth (ft btc):	55'
Flow-Through Cell:	Yes
Sampling Method:	Bladder Pump
Decontamination Method: Rinse, Alconox, Dilute Hexane, Rinse, Dilute Nitric, Rinse, Spray Isopropanol, Rinse, Spray De-ionized	
Purge Water Disposition:	AST
Field Conditions: Overcast 60°F ~ 5 mph wind	
Comments:	

<b>Well Information</b>				Stick-up or Flush (circle one)	
Well Diameter (in)	Drilled Well Depth		Top of Screen		Screen Interval (ft bgs)
	(ft bgs)	(ft btc)	(ft bgs)	(ft btc)	
2"	61.00	63.80	50.00	52.80	50 - 60
<b>Purge Volume</b> (Only applicable if pump intake is above top of screen)					
Top Screen (ft btc)	Pump Intake (ft btc)	Top Screen - Pump Intake (ft)	Convert Factor (L/ft)	Minimum Purge Volume (Liters)	

3/4"=0.087 L/ft      2"=0.64 L/ft      4"=2.5 L/ft      6"=5.68 L/ft				
<b>Sample Containers</b>				Filtered?
Number	Type	Preservative	Analytical Parameters	
✓ 2	1 L Amber	None	PAHs	N
✓ 6	VOAs	HCl	BTEX	N
✓ 1	500 mL	NaOH	Total and Amenable CN	N
✓ 2	250 mL	HNO <sub>3</sub>	Total Metals	N

Well Purge Data										
Time	Volume Purged (Liters)	Purge Rate (Lpm)	DTW (ft btc)	Temp. (°C)	Conductivity (uS/cm)	D.O. (mg/L)	pH	ORP (mV)	Turbidity (NTUs)	Clarity/Color/Remarks
	Start Pump On 10/6		Initial 22.21		±3%	±10%	±0.1	±10mv	±10%	<= Stabilization Criteria
1016	← 1.00	24.27	14.17	1021	35.68	4.39	21.2	12.0	VC	CC
1021	0.50	25.04	14.09	894	18.26	4.99	21.5	7.9	VC	CC
1026	1.00	25.30	14.12	927	9.95	5.19	23.8	3.2	VC	CC
1031	← 1.50	26.32	14.13	934	7.47	5.36	25.4	13.0	CC	
1036	2.00	26.55	14.13	916	6.28	5.50	25.6	19.0	CC	
1041	2.50	26.55	14.17	930	5.37	5.60	27.1	150.0	CI	
1046	3.00	26.54	14.29	933	5.08	5.70	29.1	170.0	CI	
1051	3.50	26.52	14.30	969	5.31	5.87	28.4	80.0	CI	
1056	← 4.00	27.00	14.30	964	4.24	5.96	29.2	65.0	CI	
1101	5.00	27.10	14.28	935	3.72	6.08	29.3	60	CI	
1106	6.00	27.00	14.29	927	3.59	6.14	29.6	75	CI	
1111	7.00	27.00	14.31	932	3.64	6.18	30.0	80	CI	
Start Sampling 1115										
End Sampling 1127		Sample Number: 2708-050928-MW-10-61-121								
		Final 27.00								

Note: bgs= below ground surface btc=below top of casing DTW=depth to water Lpm=Liters per minute  
Clarity: VC=very cloudy CI=cloudy SC=slightly cloudy AC=almost clear C=clear CC=crystal clear

# Low Flow Well Sampling Field Log

Well Number: MW-12-36

Page 1 of 2

Date: 9/27/05

<b>Project Information</b>	
Project Name:	NW Natural - Gasco Facility
HAI Project Number:	2708-30
<b>Sampling Information</b>	
Field Team:	MWG/BAU
Purge Method:	Low Flow
Pump Intake Depth (ft btc):	28'
Flow-Through Cell:	Yes
Sampling Method:	Bladder Pump
Decontamination Method: Rinse, Alconox, Dilute Hexane, Rinse, Dilute Nitric, Rinse, Spray Isopropanol, Rinse, Spray De-Ionized	
Purge Water Disposition:	AST
Field Conditions:	OVERCAST, 60's
Comments:	

<b>Well Information</b> (Stick-up) or Flush (circle one)					
Well Diameter (in)	Drilled Well Depth		Top of Screen		Screen Interval (ft bgs)
	(ft bgs)	(ft btc)	(ft bgs)	(ft btc)	
2"	36.00	38.80	25.00	27.80	25 - 35
<b>Purge Volume</b> (Only applicable if pump intake is above top of screen)					
Top Screen (ft btc)	Pump Intake (ft btc)	Top Screen - Pump Intake (ft)	Convert Factor (L/ft)	Minimum Purge Volume (Liters)	
25'	28'				
3/4"=0.087 L/ft		2"=0.64 L/ft		4"=2.5 L/ft 6"=5.68 L/ft	
<b>Sample Containers</b>					Filter?
Number	Type	Preservative	Analytical Parameters		
2	1 L Amber	None	PAHs		N
3	VOAs	HCl	BTEX		N
1	500 mL	NaOH	Total and Amenable CN		N
1	250 mL	HNO <sub>3</sub>	Total Metals		N

Well Purge Data										
Time	Volume Purged (Liters)	Purge Rate (Lpm)	DTW (ft btc)	Temp. (°C)	Conductivity (uS/cm)	D.O. (mg/L)	pH	ORP (mV)	Turbidity (NTUs)	Clarity/Color/Remarks
	Start Sampling Pump On		Initial 17.48	-	±3%	±10%	±0.1	±10mv	±10%	<= Stabilization Criteria
1115	0		19.05	14.38	606	29.52	7.68	38.3	9.30	AC
1120	.5		19.07	14.15	816	17.98	7.42	37.2	7.10	C
1125	1.0		18.82	14.21	752	14.82	7.35	35.5	7.20	C
1130	1.5		18.77	14.17	651	8.28	7.27	35.2	5.0	C
1135	2.0		18.77	14.15	626	5.94	7.24	35.1	4.5	C
1140	2.5		18.77	14.13	613	4.91	7.22	34.9	5.0	C
1145	3.0		18.77	14.17	601	4.11	7.21	34.8	4.7	C
1150	3.5		18.77	14.14	587	3.75	7.20	34.7	5.5	C
1155	4.0		18.77	14.18	581	3.89	7.19	34.7	3.7	C
1200	4.5		18.77	14.19	574	2.80	7.19	35.0	3.4	C
1205	5.0		18.77	14.25	564	2.72	7.24	34.2	5.1	C
1210	5.5		18.77	14.21	559	2.86	7.26	33.9	4.0	C
	Start Sampling 1230									
	End Sampling 1240				Sample Number: 2708-050927-MW-12-36-116					
			Final 18.56							

Note: bgs= below ground surface btc=below top of casing DTW=depth to water Lpm=Liters per minute  
Clarity: VC=very cloudy Cl=cloudy SC=slightly cloudy AC=almost clear C=clear CC=crystal clear

**HAI Project Number:** 2708-30

Well Number: MW-12-36

Date: 9/27/05

## Well Purge Data (continued from Page 1)

[illegible]

### Comments

Note: bgs= below ground surface    btc=below top of casing    DTW=depth to water    Lpm=Liters per minute  
Clarity: VC=very cloudy    Cl=cloudy    SC=slightly cloudy    AC=almost clear    C=clear    CC=crystal clear

# Low-Flow Well Sampling Field Log

Well Number: MW-13-30

Page 1 of 1

Date: 9/20/05

<b>Project Information</b>	
Project Name:	NW Natural - Gasco Facility
HAI Project Number:	2708-30
<b>Sampling Information</b>	
Field Team:	Ben Uhl ✓
Purge Method:	Low Flow ✓
Pump Intake Depth (ft btc):	25 ✓
Flow-Through Cell:	Yes ✓
Sampling Method:	Bladder Pump ✓
Decontamination Method: Rinse, Alconox, Dilute Hexane, Rinse, Dilute Nitric, Rinse, Spray Isopropanol, Rinse, Spray De-Ionized	
Purge Water Disposition:	AST
Field Conditions:	Overcast 60°F, No wind
Comments: Multi meter repairs. Used diff. meters.	

<b>Well Information</b>			Stick-up or <u>Flush</u> (circle one)	
Well Diameter (in)	Drilled Well Depth (ft bgs)	Top of Screen (ft bgs)	Screen Interval (ft bgs)	
2"	30.00	29.60	19.00	18.60
Purge Volume (Only applicable if pump intake is above top of screen)				
Top Screen (ft btc)	Pump Intake (ft btc)	Top Screen - Pump Intake (ft)	Convert Factor (L/ft)	Minimum Purge Volume (Liters)
19	25	25	—	—
3/4"=0.087 L/ft      2"=0.64 L/ft      4"=2.5 L/ft      6"=5.68 L/ft				
<b>Sample Containers</b>				
Number	Type	Preservative	Analytical Parameters	
2 ✓	1 L Amber	None	PAHs	
3 ✓	VOAs	HCl	BTEX	
1 ✓	500 mL	NaOH	Total and Amenable CN	
1 ✓	250 mL	HNO <sub>3</sub>	Total Metals	
				Filtered?

Well Purge Data										
Time	Volume Purged (Liters)	Purge Rate (Lpm)	DTW (ft btc)	Temp. (°C)	Conductivity (uS/cm)	D.O. (mg/L)	pH	ORP (mV)	Turbidity (NTUs)	Clarity/Color/Remarks
0908	9 Gallons Pump On		Initial 18.50		±3%	±10%	±0.1	±10mv	±10%	<= Stabilization Criteria
0905		1.0	—	15.61	1380	170.29	18.43	-149.1	800	
0910		1.0	—	15.38	1269					
1015		2.0	Meter Repairs							
1020		3.0	18.55	13.3	775	8.63	6.44	—	650	
1027		5.0	18.60	13.2	801	0.39	6.59	—	90	AC
1032		6.0	18.55	13.6	792	0.42	6.61	—	17	C
1037		7.0	18.55	13.4	791	0.35	6.60	—	9.6	C
1042		8.0	18.55	13.7	792	0.32	6.59	—	8.1	C
1047		9.0	18.55	13.6	791	0.30	6.59		8.4	C
1052		10.0	18.55	13.5	793	0.30	6.63		8.0	C
Start Sampling 1055										
End Sampling 1104										
			Final 18.55							
Sample Number: 2708-051003-MW-B-30-132										

Note: bgs= below ground surface    btc=below top of casing    DTW=depth to water    Lpm=Liters per minute  
Clarity: VC=very cloudy    CI=cloudy    SC=slightly cloudy    AC=almost clear    C=clear    CC=crystal clear

# Low-Flow Well Sampling Field Log

Well Number:

MW-13-61

Page 1 of 2

Date: 9/27/05

<b>Project Information</b>	
Project Name:	NW Natural - Gasco Facility
HAI Project Number:	2708-30
<b>Sampling Information</b>	
Field Team:	MWG/DAU
Purge Method:	Low Flow <input checked="" type="checkbox"/>
Pump Intake Depth (ft btc):	55
Flow-Through Cell:	Yes <input checked="" type="checkbox"/>
Sampling Method:	Bladder Pump <input checked="" type="checkbox"/>
Decontamination Method: Rinse, Alconox, Dilute Hexane, Rinse, Dilute Nitric, Rinse, Spray Isopropanol, Rinse, Spray De-Ionized	
Purge Water Disposition:	AST
Field Conditions: OVERCAST, 100's, No Wind	
Comments: Sheen (not rainbowish) on top of water in purge bucket	

<b>Well Information</b>			Stick-up or <u>Flush</u> (circle one)	
Well Diameter (in)	Drilled Well Depth (ft bgs)	Top of Screen (ft bgs)	Screen Interval (ft bgs)	
2"	61.00	60.60	50.00	49.60
Purge Volume (Only applicable if pump intake is above top of screen)				
Top Screen (ft btc)	Pump Intake (ft btc)	Top Screen - Pump Intake (ft)	Convert Factor (L/ft)	Minimum Purge Volume (Liters)
50	55	55	—	—
3/4"=0.087 L/ft      2"=0.64 L/ft      4"=2.5 L/ft      6"=5.68 L/ft				

<b>Sample Containers</b>				Filtered?
Number	Type	Preservative	Analytical Parameters	
✓ 2	1 L Amber	None	PAHs	N
✓ 3	VOAs	HCl	BTEX	N
✓ 1	500 mL	NaOH	Total and Amenable CN	N
✓ 1	250 mL	HNO <sub>3</sub>	Total Metals	N

## Well Purge Data

Time	Volume Purged (Liters)	Purge Rate (Lpm)	DTW (ft btc)	Temp. (°C)	Conductivity (uS/cm)	D.O. (mg/L)	pH	ORP (mV)	Turbidity (NTUs)	Clarity/Color/Remarks
	gallons Pump On		Initial 30.23	-	±3%	±10%	±0.1	±10mv	±10%	<= Stabilization Criteria
800	0		31.50	15.68	1078	166.02	6.27	49.8	130	CL
805	1.0		31.14	15.55	1088	19.40	5.35	52.7	270	CL
813	2.0		31.10	15.53	1096	15.59	5.20	48.9	290	VC
818	2.0		31.10	15.52	1101	12.03	5.17	46.1	300	VC
823	2.5		31.10	15.50	1102	8.40	5.17	44.0	240	VC
828	3.0		31.10	15.50	1103	6.33	5.19	42.2	220	VC
833	3.5		31.10	15.49	1103	5.54	5.21	41.4	210	VC
838	4.0		31.14	15.49	1105	5.08	5.24	40.8	220	VC
843	4.5		31.14	15.49	1104	5.29	5.29	40.0	240	VC
848	5.0		31.14	15.48	1104	4.83	5.33	39.6	250	VC
853	5.5		31.14	15.47	1104	5.81	5.46	37.5	250	VC
858	6.0		31.14	15.47	1105	5.24	5.49	38.0	210	VC
Start Sampling 0940										
End Sampling 0950			Sample Number: 2708-050927-MW13-61-118							
			Final 30.12							

Note: bgs= below ground surface btc=below top of casing DTW=depth to water Lpm=Liters per minute  
Clarity: VC=very cloudy CL=cloudy SC=slightly cloudy AC=almost clear C=clear CC=crystal clear



Well Number: MW-13-61

Page 2 of 2

Date: 9/27/05

HAI Project Number: 2708-30

## Well Purge Data (continued from Page 1)

Time	Volume Purged <del>(Liters)</del>	Purge Rate (Lpm)	DTW (ft b/c)	Temp. (°C)	Conductivity (uS/cm)	D.O. (mg/L)	pH	ORP (mV)	Turbidity (NTUs)	Clarity/Color/ Remarks
<b>Jal Stabilization Criteria =&gt;</b>				-	±3%	±10%	±0.1	±10mv	±10%	
0903	6.5		31.14	15.46	1105	4.89	5.53	37.8	200	VC
0908	7.0		31.14	15.46	1106	4.25	5.58	37.6	170	VC
0913	7.5		31.14	15.44	1105	3.71	5.63	37.3	140	VC
0918	8.0		31.14	15.44	1109	3.51	5.67	37.1	120	VC
0923	8.5		31.14	15.45	1105	3.30	5.75	36.6	100	VC
0928	9.0		31.14	15.45	1105	3.22	5.81	36.5	85	C1
0933	9.5		31.14	15.45	1105	3.12	5.84	36.2	85	C1
0938	10.0		31.14	15.44	1103	3.06	5.87	36.0	83	C1
Start Sampling 0940										
End Sampling 0950				Sample Number: 2708- NSG 27 - MW 13-G1-114						
			Final 30.92							

### Comments

Note: bgs= below ground surface    btc=below top of casing    DTW=depth to water    Lpm=Liters per minute  
Clarity: VC=very cloudy    Cl=cloudy    SC=slightly cloudy    AC=almost clear    C=clear    CC=crystal clear

Well Number: MW-14-110

Page 1 of 1

Date: 9/22/05

Project Information
Project Name: GASCO
HAI Project Number: 2708-30
Sampling Information
Field Team: MWL/BAU
Purge Method: LOW FLOW
Pump Intake Depth (ft btc): 100'
Flow-Through Cell: YES
Sampling Method: S.S. GROUNDFOJ PUMP (115Hz)
Decontamination Method: GASCO 9-STEP
Purge Water Disposition: ON-SITE AST
Field Conditions: SUNNY, 70's; NW Wind ~10 mph.
Comments:

Well Information			Stick-up or Flush (circle one)		Screen Interval (ft bgs)	
Well Diameter (in)	Drilled Well Depth		Top of Screen		Screen Interval (ft bgs)	
	(ft bgs)	(ft btc)	(ft bgs)	(ft btc)		
2	110	112.1	98	100.1	98 - 108	
Well Volume Calculation						
Well Depth (ft btc)	DTW (ft btc)	Water Column (ft)	Convert Factor (gal/ft)	One Well Volume (gal)	Three Well Volumes (gal)	
110	25.90	74.10	0.163	12.07	36.21	
$3/4" = 0.023 \text{ gal/ft}$ $(2) = 0.17 \text{ gal/ft}$ $4" = 0.66 \text{ gal/ft}$ $6" = 1.5 \text{ gal/ft}$						
Sample Containers						Filtered?
Number	Type	Preservative	Analytical Parameters			
2	1L AMBER	NOPE	PAHs			No
3	VOAS	HCL	BTEX			No
1	500 mL	NaOH	TOTAL/AMEN CYN.			NO
1	250 mL	HNO3	TOTAL METALS			NO

Well Purge Data		Total Volume to Purge (gal) =								
Time	Volume Purged (gallons)	Purge Rate (gpm)	DTW (ft btc)	Temp. (°C)	Conductivity (uS/cm)	D.O. (mg/L)	pH	ORP (mV)	Turbidity (NTUs)	Clarity/Color/Remarks
	Pump On		25.90 <sup>Initial</sup>	-	±3%	±10%	±0.1	±10mv	±10%	<= Stabilization Criteria
1111	1.1		26.35	15.75	1875	93.82	5.45	38.5	38.0	Clear/colorless
1116	1.5		27.10	15.54	2243	8.33	5.31	34.1	21.0	"/"
1121	3.5		27.79	16.07	2346	4.99	5.61	29.0	11.0	"/"
1126	5.0		27.92	15.89	2344	4.59	5.81	29.4	7.5	"/"
1131	6.5		27.92	15.92	2365	4.22	5.89	28.2	4.2	"/"
1136	8.0		27.93	15.94	2356	3.95	5.95	27.3	3.2	"/"
1141	9.5		27.75	15.95	2350	3.83	6.01	26.6	1.5	"/"
1146	10.5		27.97	16.00	2357	3.64	6.10	25.6	1.1	"/"
1151	11.5		27.99	16.03	2342	3.57	6.16	25.1	0.50	"/"
1156	12.5		28.01	16.04	2334	3.64	6.23	24.4	0.75	"/"
1201	13.5		28.02	16.66	2318	3.60	6.30	23.8	0.70	"/"
1206	14.5		28.02	16.07	2319	3.64	6.36	23.3	0.70	"/"
	Start Sampling	1225								
	End Sampling	1235			Sample Number:	2708-050922-MW14-110-105				
			Final							

Note: bgs= below ground surface    btc=below top of casing    DTW=depth to water    gpm=gallons per minute  
Clarity: VC=very cloudy    Cl=cloudy    SC=slightly cloudy    AC=almost clear    C=clear    CC=crystal clear

Clarity: VC=very cloudy Cl=cloudy SC=slightly cloudy AC=almost clear C=clear CC=crystal clear

• VOLUME CALCULATION:  $110 - 25.90 = 74.1 (0.163) = 12.07 = 1 \text{ volume (gal)}$   
 $36.21 = 3 \text{ volumes (gal)}$

Flow Rate = 1.35 Liters

• Purge water has "chemical" odor; strong.

File: MW Sample Form copy (07/02)

File: MW Sample Form copy

( 07/03)

HAHN AND ASSOCIATES, INC.

Koppers001477

HAI Project Number: 2708-30

Well Number: MW-14-110

Date: 9/22/05

## Well Purge Data (continued from Page 1)

[illegible]

### Comments

Sample Time = 1225  
+

Note: bgs= below ground surface    btc=below top of casing    DTW=depth to water    Lpm=Liters per minute  
Clarity: VC=very cloudy    Cl=cloudy    SC=slightly cloudy    AC=almost clear    C=clear    CC=crystal clear

# Low-Flow Well Sampling Field Log

Well Number: MW-15-50

Page 1 of 1

Date: 9/29/05

<b>Project Information</b>	
Project Name:	NW Natural - Gasco Facility
HAI Project Number:	2708-30
<b>Sampling Information</b>	
Field Team:	Ben Uhl
Purge Method:	Low Flow
Pump Intake Depth (ft btc):	48'
Flow-Through Cell:	Yes
Sampling Method:	Grundfos Pump
Decontamination Method:	Rinse, Alconox, Dilute Hexane, Rinse, Dilute Nitric, Rinse, Spray Isopropanol, Rinse, Spray De-ionized
Purge Water Disposition:	AST
Field Conditions:	Overcast 60's F No wind
Comments:	Water is dark grey → black strong H <sub>2</sub> S odor. Harry

<b>Well Information</b>			Stick-up or Flush (circle one)	
Well Diameter (in)	Drilled Well Depth (ft bgs) (ft btc)	Top of Screen (ft bgs) (ft btc)		Screen Interval (ft bgs)
2"	50.00 49.70	40.00 39.70		40 - 50
<b>Purge Volume</b> (Only applicable if pump intake is above top of screen)				
Top Screen (ft btc)	Pump Intake (ft btc)	Top Screen - Pump Intake (ft)	Convert Factor (L/ft)	Minimum Purge Volume (Liters)
40	48'	48'	—	—
3/4"=0.087 L/ft 2"=0.64 L/ft 4"=2.5 L/ft 6"=5.68 L/ft				
<b>Sample Containers</b>				
Number	Type	Preservative	Analytical Parameters	Filtered?
2	1 L Amber	None	PAHs	N
3	VOAs	HCl	BTEX	N
1	500 mL	NaOH	Total and Amenable CN	N
1	250 mL	HNO <sub>3</sub>	Total Metals	N

Well Purge Data										
Time	Volume Purged (Liters)	Purge Rate (Lpm)	DTW (ft btc)	Temp. (°C)	Conductivity (uS/cm)	D.O. (mg/L)	pH	ORP (mV)	Turbidity (NTUs)	Clarity/Color/Remarks
	gallons Pump On		Initial		±3%	±10%	±0.1	±10mv	±10%	≤ Stabilization Criteria
1055	1.00		19.80	21.76	2424	35.69	7.45	28.5	650	VC
1100	0.75		21.50	22.96	2734	2.62	7.30	23.4	290	VC
1105	1.25		21.52	24.00	2902	2.15	7.49	19.3	170	VC
1110	2.00		21.52	24.46	2964	2.10	7.52	18.4	100	VC
1115	2.50		21.52	24.71	2984	2.07	7.54	17.8	90	VC
1120	3.00		21.52	24.70	2988	2.06	7.55	18.1	90	VC
Start Sampling 1125										
End Sampling 1136										
Sample Number: 2708-050929-MW-15-50-1026										
			Final 21.52							

Note: bgs= below ground surface btc=below top of casing DTW=depth to water Lpm=Liters per minute  
Clarity: VC=very cloudy Cl=cloudy SC=slightly cloudy AC=almost clear C=clear CC=crystal clear

# Low-Flow Well Sampling Field Log

Well Number: MW-15-66

Page 1 of 2

Date: 9/29/05

<b>Project Information</b>	
Project Name:	NW Natural - Gasco Facility
HAI Project Number:	2708-30
<b>Sampling Information</b>	
Field Team:	Ben Uhl
Purge Method:	Low Flow ✓
Pump Intake Depth (ft btc):	60.5' ✓
Flow-Through Cell:	Yes ✓
Sampling Method:	Bladder Grundfos Pump
Decontamination Method: Rinse, Alconox, Dilute Hexane, Rinse, Dilute Nitric, Rinse, Spray Isopropanol, Rinse, Spray De-Ionized	
Purge Water Disposition:	AST
Field Conditions:	overcast 60°F, No wind
Comments: Well purged clear @ start then increasing turbidity	

<b>Well Information</b>				Stick-up or <u>Flush</u> (circle one)	
Well Diameter (in)	Drilled Well Depth		Top of Screen		Screen Interval (ft bgs)
	(ft bgs)	(ft btc)	(ft bgs)	(ft btc)	
2"	66.00	65.80	60.50	60.30	60.5-65.5
<b>Purge Volume</b> (Only applicable if pump intake is above top of screen)					
Top Screen (ft btc)	Pump Intake (ft btc)	Top Screen - Pump Intake (ft)	Convert Factor (L/ft)	Minimum Purge Volume (Liters)	
60.5'	61.0'	61.0'	—	—	
3/4"=0.087 L/ft		2"=0.64 L/ft	4"=2.5 L/ft	6"=5.68 L/ft	
<b>Sample Containers</b>					Filtered?
Number	Type	Preservative	Analytical Parameters		
✓ 2	1 L Amber	None	PAHs		N
✓ 3	VOAs	HCl	BTEX		N
✓ 1	500 mL	NaOH	Total and Amenable CN		N
✓ 1	250 mL	HNO <sub>3</sub>	Total Metals		N

Well Purge Data										
Time	Volume Purged (Liters)	Purge Rate (Lpm)	DTW (ft btc)	Temp. (°C)	Conductivity (uS/cm)	D.O. (mg/L)	pH	ORP (mV)	Turbidity (NTUs)	Clarity/Color/Remarks
	Purging Pump On		Initial 19.57		±3%	±10%	±0.1	±10mv	±10%	≤ Stabilization Criteria
0919	1.0		22.61	19.92	323	119.93	6.26	44.5	10	C
0924	1.0		22.61	20.41	312	86.38	6.92	35.1	70	CL
0929	2.0		22.61	20.57	310	38.5	7.00	38.5	220	VC
0934	3.0		22.61	19.90	306	7.42	7.14	37.8	340	VC, turbid
0939	Pump repair needed → pump stopped									
0942	3.5		22.61	22.28	323	6.84	7.41	30.8	320	VC
0947	4.5		22.61	19.97	304	3.42	7.32	38.1	210	VC
0952	5.5		22.61	20.29	305	2.89	7.40	35.9	380	VC
0957	6.5		22.61	20.19	304	2.96	7.37	36.4	>1,100	Extremely Turbid
1002	7.5		22.61	20.66	306	2.72	7.14	39.5	730	VC
1007	8.5		22.61	20.68	310	2.22	6.96	37.5	450	VC
1012	9.5		22.61	19.74	297	2.02	7.30	37.6	370	VC
Start Sampling 10:35										
End Sampling 10:45			Sample Number: 2708-050929-MW-15-66-125							
			Final 22.61							

Note: bgs= below ground surface btc=below top of casing DTW=depth to water Lpm=Liters per minute  
Clarity: VC=very cloudy CL=cloudy SC=slightly cloudy AC=almost clear C=clear CC=crystal clear

HAI Project Number: 2708-30

Well Number: mw1-15-66

Date: 9/29/05

## Well Purge Data (continued from Page 1)

[illegible]

### Comments

Had to make bladder pump repair during purging. Purging was "paused";  
see previous sheet for times

Note: bgs= below ground surface    btc=below top of casing    DTW=depth to water    Lpm=Liters per minute  
Clarity: VC=very cloudy    Cl=cloudy    SC=slightly cloudy    AC=almost clear    C=clear    CC=crystal clear

# Monitoring Well Sampling Field Log

Well Number: MW-16-45  
Date: 10/3/05

Page 1 of 1

<b>Project Information</b>	
Project Name:	NW Natural - Gasco Facility
HAI Project Number:	2708-30
<b>Sampling Information</b>	
Field Team:	Matt Graves
Purge Method:	Standard
Pump Intake Depth (ft btc):	40ft
Flow-Through Cell:	Yes
Sampling Method:	Butler Grundfos Pump
Decontamination Method: Rinse, Alconox, Dilute Hexane, Rinse, Dilute Nitric, Rinse, Spray Isopropanol, Rinse, Spray De-ionized	
Purge Water Disposition:	AST
Field Conditions:	Sunny 60°s F; No wind
Comments: ABUNDANT FEW ODR SHEEN, + APPEARANCE. PRODUCT DEFINITELY PRESENT	

<b>Well Information</b>					
<input checked="" type="radio"/> Stick-up or Flush (circle one)					
Well Diameter (in)	Drilled Well Depth (ft bgs) (ft btc)		Top of Screen (ft bgs) (ft btc)		Screen Interval (ft bgs)
2	68.00		35.00		35-45
<b>Well Volume Calculation</b>					
Well Depth (ft btc)	DTW (ft btc)	Water Column (ft)	Convert Factor (gal/ft)	One Well Volume (gal)	Three Well Volumes (gal)
68	27.04	40.96	6.9	6.9	21.7
3/4"=0.023 gal/ft		2"=0.17 gal/ft		4"=0.66 gal/ft 6"=1.5 gal/ft	
<b>Sample Containers</b>					Filtered?
Number	Type	Preservative	Analytical Parameters		
2	✓ 1 L Amber	None	PAHs		N
3	✓ VOAs	HCl	BTEX		N
1	✓ 500 mL	NaOH	Amenable CN		N
1	✓ 250 mL	HNO <sub>3</sub>	Total Metals		N

Well Purge Data					Total Volume to Purge (gal) =					
Time	Volume Purged (gallons)	Purge Rate (gpm)	DTW (ft btc)	Temp. (°C)	Conductivity (uS/cm)	D.O. (mg/L)	pH	ORP (mV)	Turbidity (NTUs)	Clarity/Color/Remarks
1243	Pump On		Initial 27.04	-	±3%	±10%	±0.1	±10mv	±10%	<= Stabilization Criteria
1444	7			14.4	262	2.66	6.85	✓	140	SC
1447	14			14.6	583	3.62	6.91	-	160	SC
1454	21			13.1	595	4.24	6.91	-	160	SC
Start Sampling 1455										
End Sampling 1509					Sample Number: 2708-051003-MW-16-45-136					
Final										

Note: bgs= below ground surface btc=below top of casing DTW=depth to water gpm=gallons per minute  
Clarity: VC=very cloudy Cl=cloudy SC=slightly cloudy AC=almost clear C=clear CC=crystal clear

\* abundant + product: did not want to damage indicator

# Low-Flow Well Sampling Field Log

Page 1 of 1

Well Number: MW-16-65

Date: 10/3/05

<b>Project Information</b>	
Project Name:	NW Natural - Gasco Facility
HAI Project Number:	2708-30
<b>Sampling Information</b>	
Field Team:	Ben W / Matt Graves
Purge Method:	Low Flow
Pump Intake Depth (ft btc):	60Ft
Flow-Through Cell:	Yes
Sampling Method:	Bladder Pump
Decontamination Method: Rinse, Alconox, Dilute Hexane, Rinse, Dilute Nitric, Rinse, Spray Isopropanol, Rinse, Spray De-ionized	
Purge Water Disposition:	AST
Field Conditions:	Sunny 60°F, No wind
Comments:	Started to rain

<b>Well Information</b>		Stick-up or Flush (circle one)	
Well Diameter (in)	Drilled Well Depth (ft bgs) (ft btc)	Top of Screen (ft bgs) (ft btc)	Screen Interval (ft bgs)
2"	68.00	55.00	55-65
<b>Purge Volume</b> (Only applicable if pump intake is above top of screen)			
Top Screen (ft btc)	Pump Intake (ft btc)	Top Screen - Pump Intake (ft)	Convert Factor (L/ft) Minimum Purge Volume (Liters)
55	60		

3/4"=0.087 L/ft 2"=0.64 L/ft 4"=2.5 L/ft 6"=5.68 L/ft

<b>Sample Containers</b>				Filtered?
Number	Type	Preservative	Analytical Parameters	
24	1 L Amber	None	PAHs	N
36	VOAs	HCl	BTEX	N
12	500 mL	NaOH	Amenable CN	N
12	250 mL	HNO <sub>3</sub>	Total Metals	N

Well Purge Data										
Time	Volume Purged (Liters)	Purge Rate (Lpm)	DTW (ft btc)	Temp. (°C)	Conductivity (uS/cm)	D.O. (mg/L)	pH	ORP (mV)	Turbidity (NTUs)	Clarity/Color/Remarks
1242	Pump On		Initial 28.06	-	±3%	±10%	±0.1	±10mv	±10%	<= Stabilization Criteria
1311	1.15		29.40	14.1	400	2.44	6.64	-	9.9	C
1316	0.25		29.40	14.8	286	0.55	6.87	-	8.5	C
1321	0.50		30.16	13.9	417	0.47	6.91	-	7.8	C
1326	0.75		31.10	13.5	694	0.42	6.95	-	8.1	C
1331	1.0		31.10	13.7	703	0.41	6.87	-	8.7	C
1336	1.25		31.10	14.1	702	0.40	6.86	-	8.4	C
Start Sampling 1340										
End Sampling 1356			Sample Number: 2708-051003-MW-16-65-134							
			2708-051003-MW-16-65-135							

Note: bgs= below ground surface btc=below top of casing DTW=depth to water Lpm=Liters per minute  
Clarity: VC=very cloudy Cl=cloudy SC=slightly cloudy AC=almost clear C=clear CC=crystal clear

← DUPLICATE SAMPLES



# Low-Flow Well Sampling Field Log

Well Number: MW-16-125  
Date: 9/30/05

Page 1 of 1

<b>Project Information</b>	
Project Name:	NW Natural - Gasco Facility
HAI Project Number:	2708-30
<b>Sampling Information</b>	
Field Team:	Ben Uhl
Purge Method:	Low Flow ✓
Pump Intake Depth (ft btc):	120ft ✓
Flow-Through Cell:	Yes ✓
Sampling Method:	Grindstone Bladder Pump ✓
Decontamination Method: Rinse, Alconox, Dilute Hexane, Rinse, Dilute Nitric, Rinse, Spray Isopropanol, Rinse, Spray De-ionized ✓	
Purge Water Disposition:	AST ✓
Field Conditions:	Rain, 60°F (heavy rain!)
Comments:	ms/msd taken from well

<b>Well Information</b>					
Well Diameter (in)	Drilled Well Depth		Top of Screen		Screen Interval (ft bgs)
	(ft bgs)	(ft btc)	(ft bgs)	(ft btc)	
2"	130.00		115.00		115-125
<b>Purge Volume</b> (Only applicable if pump intake is above top of screen)					
Top Screen (ft btc)	Pump Intake (ft btc)	Top Screen - Pump Intake (ft)	Convert Factor (L/ft)	Minimum Purge Volume (Liters)	
115	120	120			

3/4"=0.087 L/ft      2"=0.64 L/ft      4"=2.5 L/ft      6"=5.68 L/ft

<b>Sample Containers</b>				Filtered?
Number	Type	Preservative	Analytical Parameters	
✓ 16	1 L Amber	None	PAHs	N
✓ 19	VOAs	HCl	BTEX	N
✓ 13	500 mL	NaOH	Amenable CN	N
✓ 13	250 mL	HNO <sub>3</sub>	Total Metals	N

Well Purge Data										
Time	Volume Purged (Liters)	Purge Rate (Lpm)	DTW (ft btc)	Temp. (°C)	Conductivity (uS/cm)	D.O. (mg/L)	pH	ORP (mV)	Turbidity (NTUs)	Clarity/Color/Remarks
	Gallons Pump On 33.3		Initial 27.83	-	±3%	±10%	±0.1	±10mv	±10%	<= Stabilization Criteria
835	1.1		27.65	15.18	1112	172.66	8.25	57.1	28	AC
0840	0.3		27.76	15.27	1127	33.19	8.19	47.3	13	C
0845	0.6		27.76	15.72	1169	28.23	8.08	44.1	10	C
0850	0.9		27.76	15.66	1171	15.62	7.81	45.1	8.4	C
0855	1.2		27.77	15.99	1189	9.62	7.80	42.6	6.3	C
0900	1.5		27.77	16.11	1192	7.70	7.74	42.4	4.2	C
0905	1.8		27.77	16.14	1192	5.85	7.69	42.3	4.0	C
0910	2.1		27.77	16.22	1189	5.81	7.64	42.3	3.8	C
0915	2.4		27.77	16.22	1189	5.82	7.64	42.3	2.9	C
0920	2.7		27.77	16.23	1188	6.68	7.63	41.8	2.6	C
0925	3.0		27.77	16.22	1189	6.74	7.62	41.7	2.4	C
0930	3.3		27.77	16.22	1188	6.79	7.62	41.7	2.5	C
Start Sampling 0935										
End Sampling 1100			Sample Number: 2708-050930-MW-16-125-130							
			Final 27.77							

Note: bgs= below ground surface btc=below top of casing DTW=depth to water Lpm=Liters per minute  
Clarity: VC=very cloudy Cl=cloudy SC=slightly cloudy AC=almost clear C=clear CC=crystal clear

# Monitoring Well Sampling Field Log

Well Number: MW-17-79

Page 1 of 2

Date: 9/26/05

<b>Project Information</b>
Project Name: NNUGRI
HAI Project Number: 2708-30
<b>Sampling Information</b>
Field Team: MWG/BAV
Purge Method: LOW FLOW
Pump Intake Depth (ft btc): 60' BTC
Flow-Through Cell: YES
Sampling Method: BLADDER PUMP
Decontamination Method: GASCO 9-STEP
Purge Water Disposition: AST
Field Conditions: SUNNY, CLEAR 70's
<b>Comments:</b>

<b>Well Information</b>					
(Stick-up) or Flush (circle one)					
Well Diameter (in)	Drilled Well Depth (ft bgs) (ft btc)		Top of Screen (ft bgs) (ft btc)		Screen Interval (ft bgs)
2"	80.5				40 - 80
<b>Well Volume Calculation</b>					
Well Depth (ft btc)	DTW (ft btc)	Water Column (ft)	Convert Factor (gal/ft)	One Well Volume (gal)	Three Well Volumes (gal)
	31.40				
3/4"=0.023 gal/ft      2"=0.17 gal/ft      4"=0.66 gal/ft      6"=1.5 gal/ft					
<b>Sample Containers</b>					Filtered?
Number	Type	Preservative	Analytical Parameters		
3	VIALS	HCL	DTEX		N
2	ILAMBERS	NONE	PAH's		N
1	250ML	HNO3	TOTAL METALS		N
1	500ML	NaOH	TOTAL AMEN. CYANIDE		N

Well Purge Data				Total Volume to Purge (gal) =						
Time	Volume Purged (gallons)	Purge Rate (gpm)	DTW (ft btc)	Temp. (°C)	Conductivity (uS/cm)	D.O. (mg/L)	pH	ORP (mV)	Turbidity (NTUs)	Clarity/Color/Remarks
	Pump On		Initial	-	±3%	±10%	±0.1	±10mv	±10%	← Stabilization Criteria
11:15	0		31.50	15.33	1558	39.00	8.29	29.8	20	AC
11:20	1.0		31.50	14.41	1600	11.87	7.75	27.7	14	AC
11:25	2.0		31.50	14.39	1575	9.31	7.70	27.8	9.8	AC
11:30	3.0		31.50	14.38	1570	5.46	7.65	25.9	8.4	AC
11:35	4.0		31.50	14.43	1581	4.73	7.64	25.2	7.2	C
11:40	5.0		31.50	14.34	1586	5.57	7.46	24.4	6.6	C
11:45	6.0		31.50	14.37	1587	4.02	7.46	24.6	5.9	C
11:50	7.0		31.50	14.37	1586	5.62	7.44	24.1	4.4	C
11:55	8.0		31.50	14.40	1590	5.25	7.41	24.0	4.1	C
12:00	9.0		31.50	14.45	1593	5.98	7.35	24.9	4.3	C
12:05	10.0		31.50	14.47	1595	5.45	7.35	24.9	5.4	C
12:10	11.0		31.50	14.45	1598	5.40	7.31	25.5	4.0	C
	Start Sampling									
	End Sampling									
			Final							
				Sample Number: 2708-050726-MW17-79-110						

Note: bgs= below ground surface    btc=below top of casing    DTW=depth to water    gpm=gallons per minute  
Clarity: VC=very cloudy    Cl=cloudy    SC=slightly cloudy    AC=almost clear    C=clear    CC=crystal clear

Well Number: MW-17-79

Page 2 of 2

Date: 9/26/05

HAI Project Number: 2708-30

## Well Purge Data (continued from Page 1)

[illegible]

### Comments

Note: bgs= below ground surface    btc=below top of casing    DTW=depth to water    Lpm=Liters per minute  
Clarity: VC=very cloudy    Cl=cloudy    SC=slightly cloudy    AC=almost clear    C=clear    CC=crystal clear

**DECEMBER 2005 MONITORING EVENT**  
(Water Levels and NAPL Check)

---

HAHN AND ASSOCIATES, INC.

Koppers001487

# Water Level Measurement Field Log

Site: Gasco - NNGGRI

Project No.: 2708-30

Date: 12/7/05

Measured by: Ren Wu

Device / Method: Solinst Water Level Meter

Well	Time Opened	Time	Water Level (ft btc)	Time	Water Level (ft btc)	Time	Water Level (ft btc)	Time	Thickness NAPL
MW-1-22	1215			1		1336	16.31	1337	- 0'
MW-2-32	1112					1323	22.31	1324	- 0'
MW-2-61	1113					1320	27.12	1321	- 0'
MW-3-26	1120					1408	20.61	1409	- 0'
MW-3-56	1121					1406	26.63	1407	- 0'
MW-4-35	1100					1426	26.06	1427	- 0'
MW-4-57	1059					1428	27.20	1429	- 0'
MW-4-101	1058					1430	27.24	1432	- 0'
MW-5-32	1220					1350	19.67	1351	- 0'
MW-5-100	1221					1352	20.08	1353	- 0'
MW-5-175	1222					1354	19.88	1355	- 0'
MW-8-29	1101					1414	20.90	1415	- 0'
MW-8-56	1102					1412	31.53	1413	- 0'
MW-9-29	0943					1233	8.44	1234	- 0'
MW-10-25	0955					1240	16.07	1241	22.8 2.2'
MW-10-61	0954					1238	18.76	1239	22.8 (EWT) 1.3'
MW-11-32	1209					1345	14.33	1346	30.70 1.3'
MW-12-36	1158					1304	13.68	1305	- 0'
MW-13-31	1104					1315	27.08	1316	- 0' (RS)
MW-13-61	1105					1318	17.44	1319	- 0' (RS)
MW-14-110	1126					1341	24.34	1342	- 0'
MW-15-50	1144					1254	15.15	1255	- 0'
MW-15-66	1145					1258	16.10	1259	- 0' (RS)
MW-16-45	1053					1440	25.22	1441	19.54 25.89 25.22 38.65 6.35
MW-16-65	1054					1442	25.22	1443	- 0'
MW-16-125	1055					1445	25.79	1448	- 0'
MW-17-79	1050					1421	27.36	1422	- 0'
PW-01-80	1003					1003	24.38	1005	24.40 1.6'
MW-River	1228		28.91			1450	24.49	-	-

ft btc = feet below top of casing River location #2 on pier by gate (1505) → 25.55

## **APPENDIX H**

### **River Bank Inspection Reports**

**QUARTERLY RIVERBANK INSPECTION  
FORM**

NW Natural  
Gasco Facility  
7900 NW St. Helens Road  
Portland, Oregon

**DATE:** 12/16/05

**DATE INSPECTED:** 12/9/05

**TIME:** 10:15

**NAME OF INSPECTOR:** Matt Graves

**SIGNATURE:**

**WEATHER CONDITIONS:** Clear , 40 – 50 Degrees Celsius

**RIVER LEVEL** (feet above below datum): 24.95

**RIVER DATUM USED:** PNO Pier Survey Station (north end)

**IS THE SHORELINE ACCESSIBLE BY FOOT?**

- Can you maintain a 10-foot minimum lateral clearance from ground slopes steeper than 45 degrees?  
Yes ☒ No ☐
- Can you traverse shoreline without entering the river and without climbing over large obstacles?  
Yes ☒ No ☐

If you answered "No" to either of the above, then the riverbank is not adequately accessible and the shoreline inspection may not proceed.

**1. Is a sheen noted on the river surface?** Yes ☐ No ☒

If yes, then photograph and describe (origination, size, persistence, location, other):

**2. Are tar balls / pebbles noted along the shoreline?** Yes ☒ No ☐

If yes, then photograph and describe (size, consistency, location, abundance, lateral extent of occurrence):

1. Approximately 40 feet South of Koppers Pier. Mixed with large boulders and cobbles. Size ranges from 1" to 6" very abundant, extending approximately 35 lateral feet and 3-4' wide.
2. Tar balls and pebbles increasing in content above back-filled gravels (West of shoreline), cobbles at shoreline to the midpoint between the FAMM and Koppers Piers. Increased content of smaller clasts of less than or equal 1".
3. Small amount of tar balls, ~1" or less directly under South end of FAMM dock on shoreline next to large tree trunks.
4. Large clasts approximately 2-3' found along shoreline between FAMM pier and North Dolphin pier. 35 feet South of Northern Dolphin pier
5. A few scattered clasts ranging from 2-8" in size on Northern end of shoreline near Army Corp dock, mixed with gravels and cobbles. Approximately 40 feet south of Army Corp dock

3. Are groundwater seeps noted along the shoreline embankment? Yes ☐ No ☒

If yes, then photograph and describe (color, odor, sheen, clarity, associated staining or algal growth):

4. Is staining noted on embankment or shoreline? Yes ☒ No ☐

If yes, then photograph and describe (location, color, odor, extent, type of material, origin of stain):

1. Location: NPDES Outfall

Color: Orange

Sheen/Odor: None

Extent: Approximately 25 feet across at shoreline, decreasing to ~2 feet across up embankment.

2. Location: Approximately 35 feet South of FAMM pier

Color: Orange

Sheen/Odor: None

Extent: Approximately 40 -45 lateral feet, ranging from 5-10 feet in width.

5. Are there significant areas of erosion or slumping? Yes ☐ No ☒

If yes, then photograph and describe (location, magnitude, type of material, staining, tar, oil, or other facility by-products within eroding material):



**6. Note wildlife (species and number) or evidence of wildlife (tracks, burrows, scat, nests, etc.) on the shoreline and within 100 feet of the shoreline. Include description of any distressed wildlife.**

Deer Tracks in Sand two to three sets of different tracks, possibly a Doe with two fawns. Tracks run from Southern end of property up to the upper embankment area near the Koppers pier.

**7. Note any evidence of recent human uses along the shoreline (i.e., campfires, anchorages, footprints).**

None

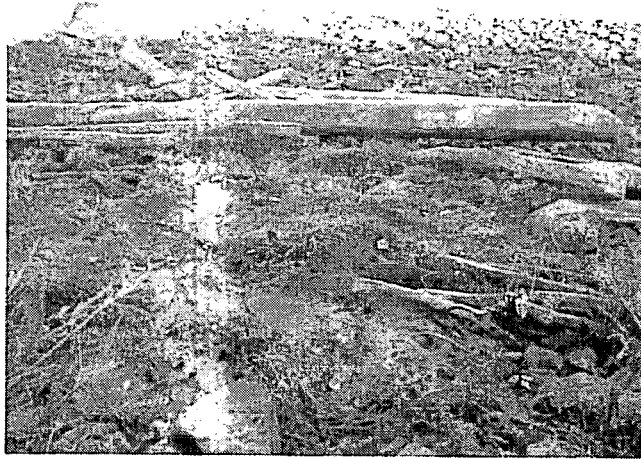
**8. Attach up-river and down-river photographs of shoreline.**

A total of 7 photographs were taken of the shoreline from all accessible docks and during the shoreline inspection (attached).

Photograph 1



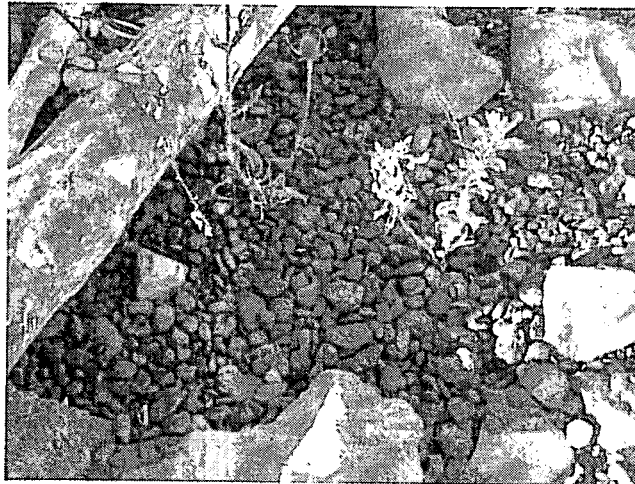
Photograph 2



Photograph 3



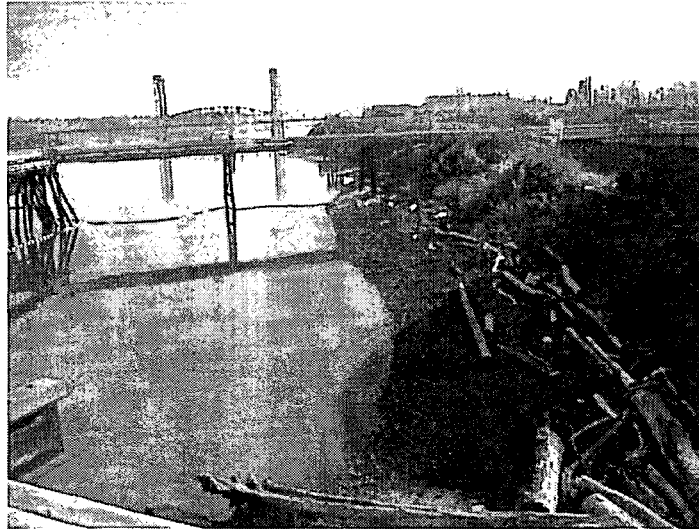
Photograph 4



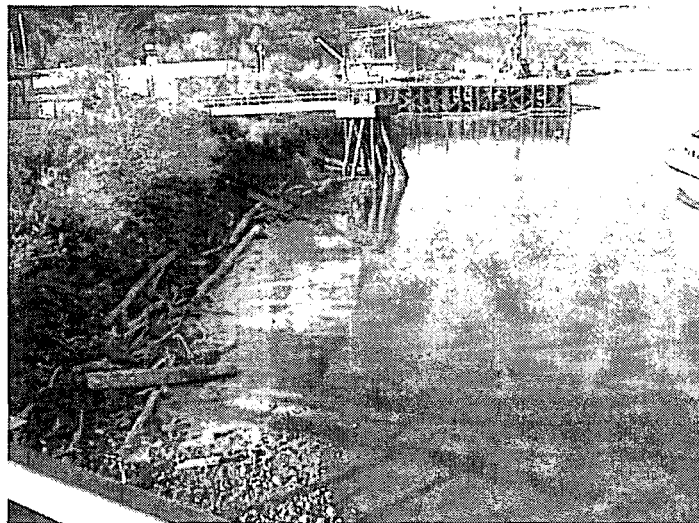
Photograph 5



Photograph 6



Photograph 7

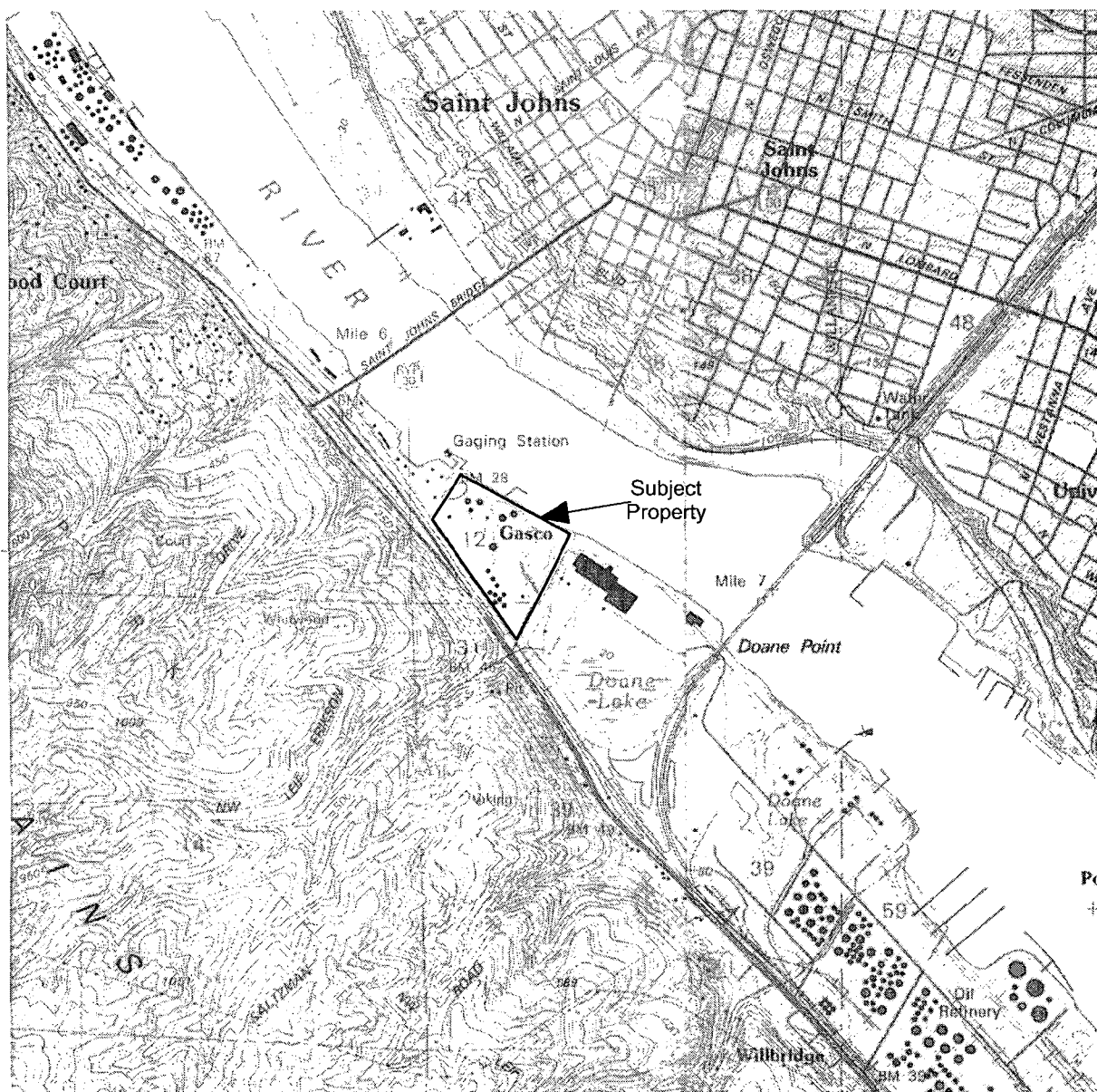


10. Other Comments: N/A

## Photograph Log Summary Sheet

**Photographer:**

[illegible]



Note: Base Map from Linnton (1990) and Portland (1990), Oregon, USGS 7.5-Minute Quadrangles



0 2,000 4,000

Approximate Scale in Feet  
Contour Interval = 10 feet

## FIGURE 1

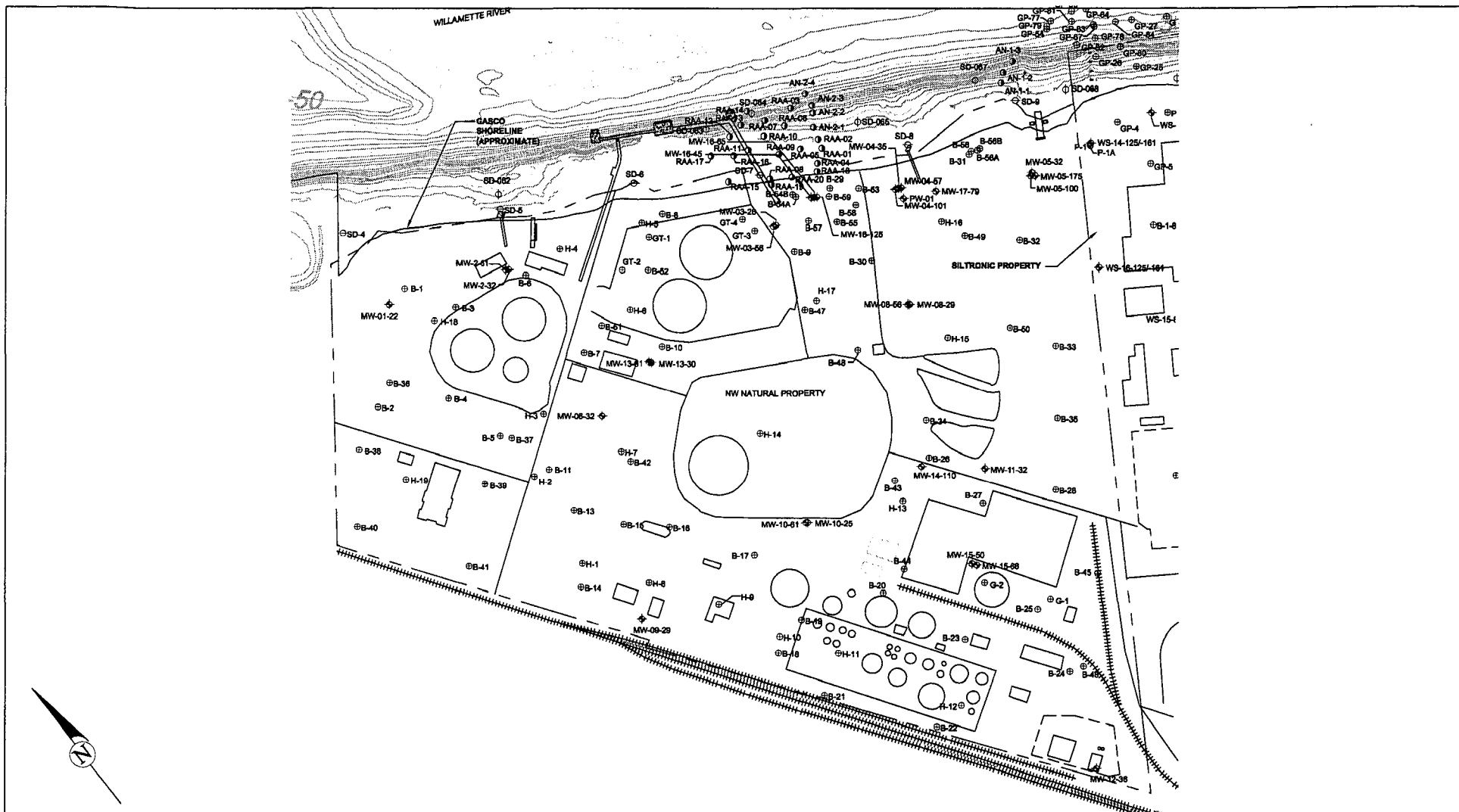
### Location Map

NW Natural Gasco Facility  
7900 NW St. Helens Road  
Portland, Oregon

HAHN AND ASSOCIATES, INC.

Project No. 2708

December 2004

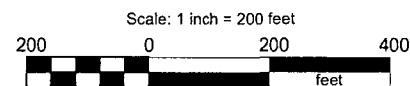


# LEGEND

- Monitoring Well
- Soil Boring
- Sediment Sample (Anchor)
- Property Line (Approximate)

## HAHN AND ASSOCIATES, INC.

ENVIRONMENTAL CONSULTANTS  
434 NW 6th AVENUE, SUITE 203  
PORTLAND, OREGON 97209  
503-796-0717

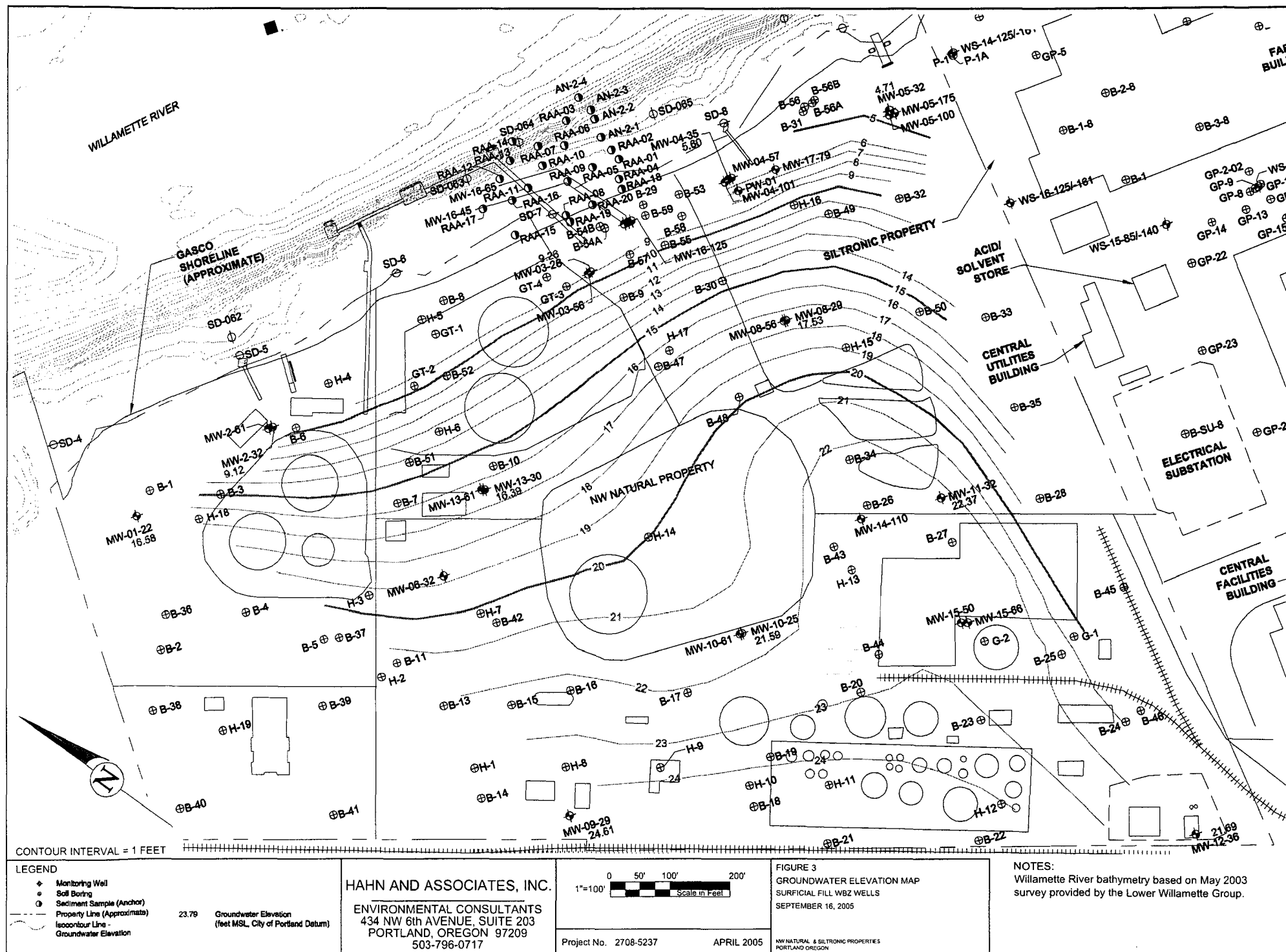


Project No. 2708

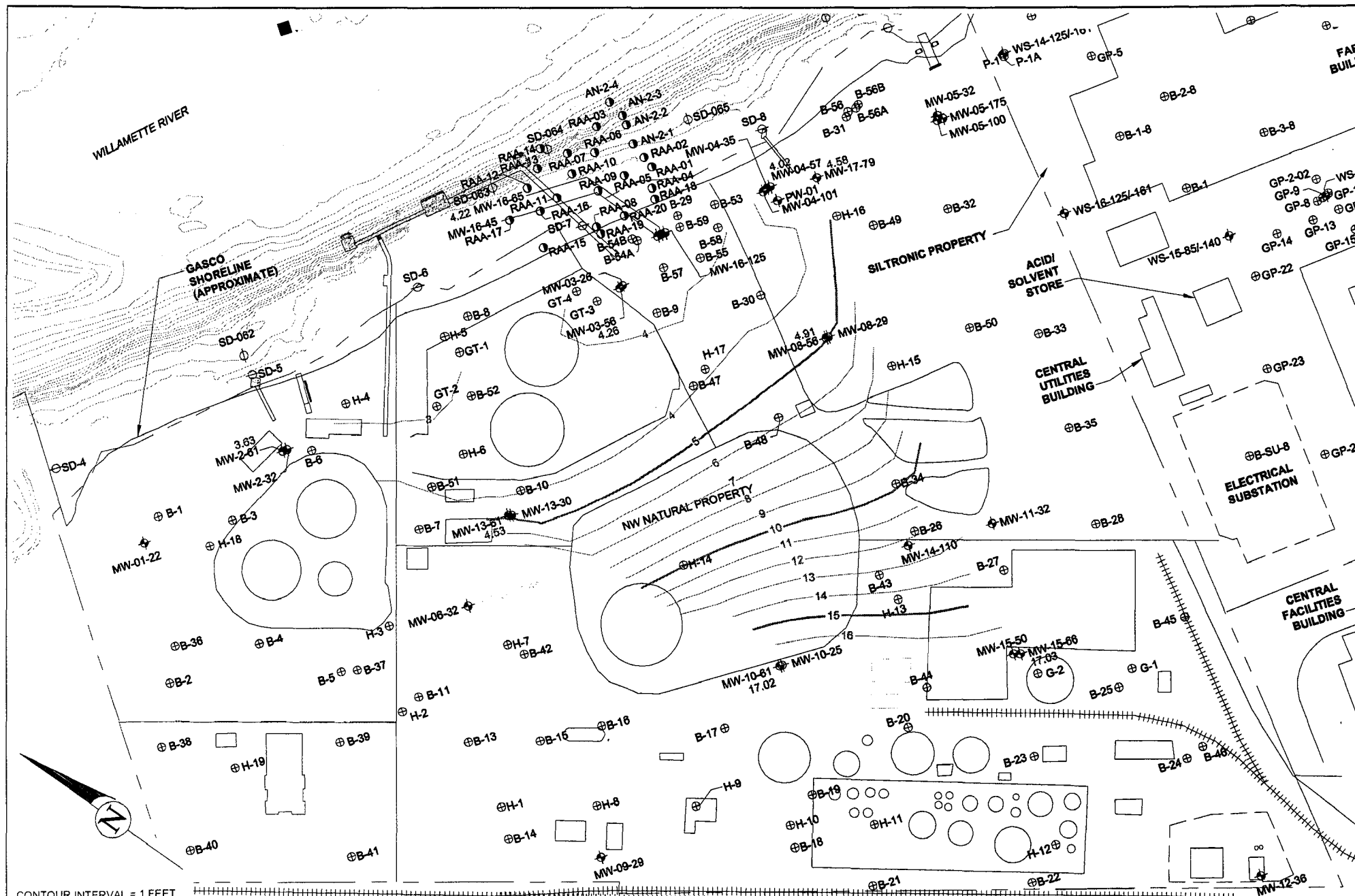
REV. APR. 2005

## FIGURE 2 Site Map

NW Natural Gasco Facility  
7900 NW St. Helens Road  
Portland, Oregon







CONTOUR INTERVAL = 1 FEET

LEGEND

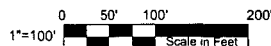
- Monitoring Well
- Soil Boring
- Sediment Sample (Anchor)
- Property Line (Approximate)
- Isocountour Line - Groundwater Elevation

23.79

Groundwater Elevation  
(feet MSL, City of Portland Datum)

HAHN AND ASSOCIATES, INC.

ENVIRONMENTAL CONSULTANTS  
434 NW 6th AVENUE, SUITE 203  
PORTLAND, OREGON 97209  
503-796-0717



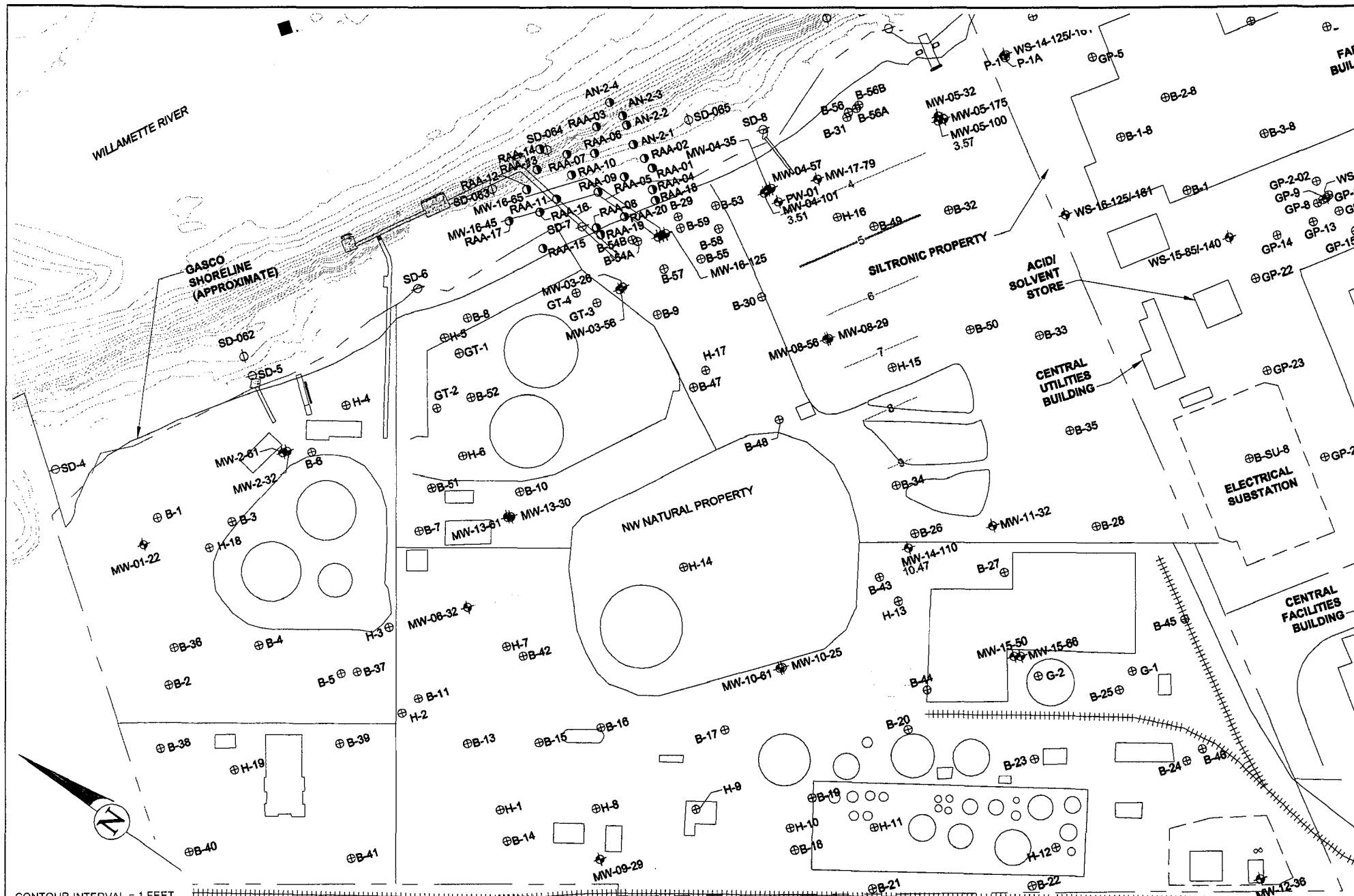
Project No. 2708-5237

APRIL 2005

FIGURE 4  
GROUND WATER ELEVATION MAP  
ALLUVIAL WBZ WELLS - TO 85' BGS (UPPER)  
SEPTEMBER 16, 2005

NW NATURAL & SILTRONIC PROPERTIES  
PORTLAND, OREGON

NOTES:  
Willamette River bathymetry based on May 2003  
survey provided by the Lower Willamette Group.



CONTOUR INTERVAL = 1 FEET

LEGEND

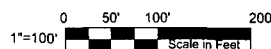
- ◆ Monitoring Well
- Soil Boring
- Sediment Sample (Anchor)
- Property Line (Approximate)
- Isocour Line
- Groundwater Elevation

23.79

Groundwater Elevation  
(feet MSL, City of Portland Datum)

HAHN AND ASSOCIATES, INC.

ENVIRONMENTAL CONSULTANTS  
434 NW 6th AVENUE, SUITE 203  
PORTLAND, OREGON 97209  
503-796-0717



Project No. 2708-5237

APRIL 2005

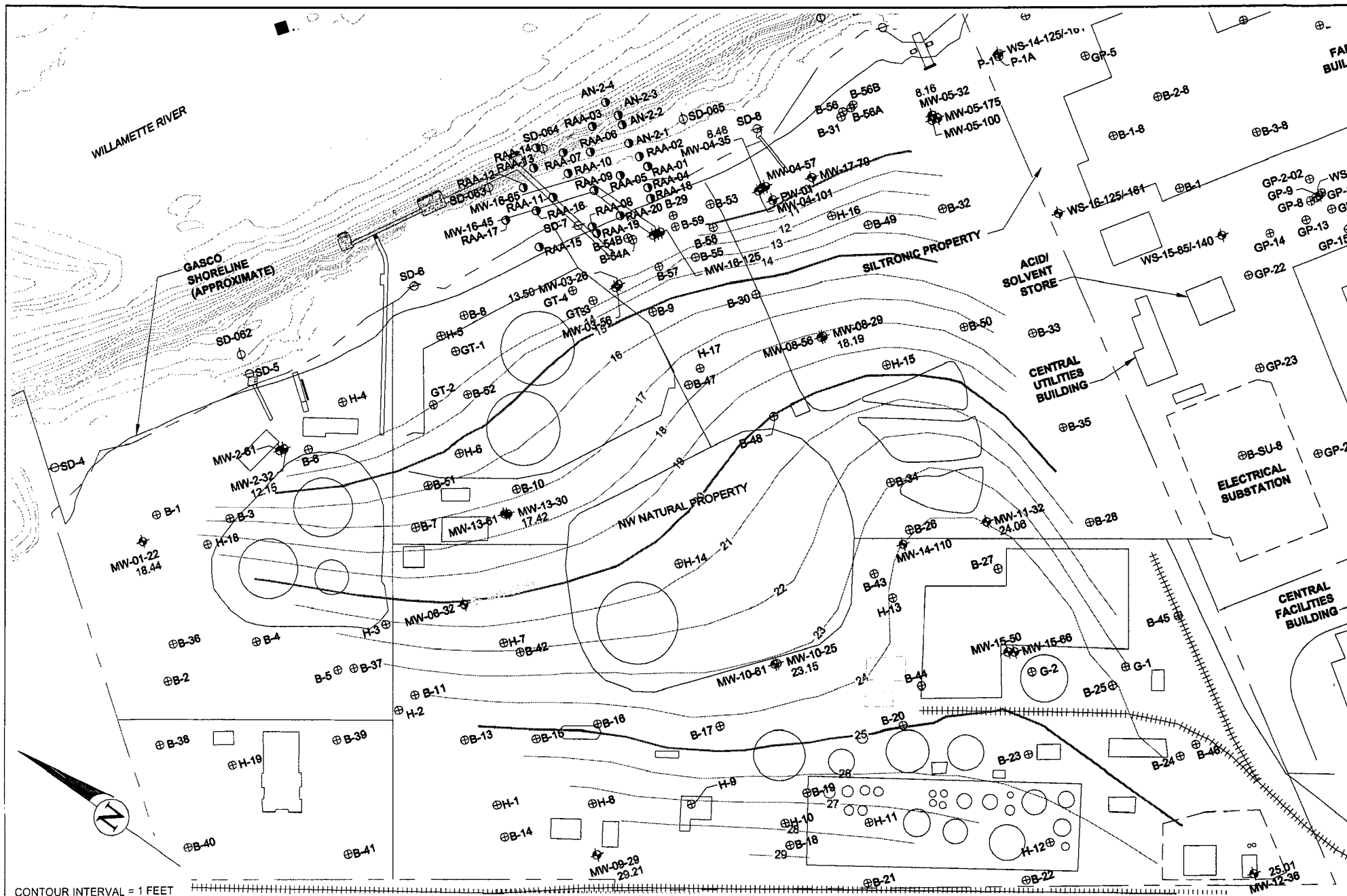
FIGURE 5

GROUND WATER ELEVATION MAP  
ALLUVIAL WBZ WELLS - 85 TO 125' BGS (INTERMEDIATE)  
SEPTEMBER 16, 2005

NW NATURAL & SILTRONIC PROPERTIES  
PORTLAND OREGON

NOTES:

Willamette River bathymetry based on May 2003 survey provided by the Lower Willamette Group.



CONTOUR INTERVAL = 1 FEET

#### LEGEND

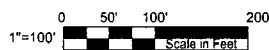
- Monitoring Well
- Soil Boring
- Sediment Sample (Anchor)
- Property Line (Approximate)
- Isocountour Line - Groundwater Elevation

23.79

Groundwater Elevation  
(feet MSL, City of Portland Datum)

**HAHN AND ASSOCIATES, INC.**

ENVIRONMENTAL CONSULTANTS  
434 NW 6th AVENUE, SUITE 203  
PORTLAND, OREGON 97209  
503-796-0717



Project No. 2708-5237

APRIL 2005

**FIGURE 6**  
GROUNDWATER ELEVATION MAP  
SURFICIAL FILL WBZ WELLS  
DECEMBER 7, 2005

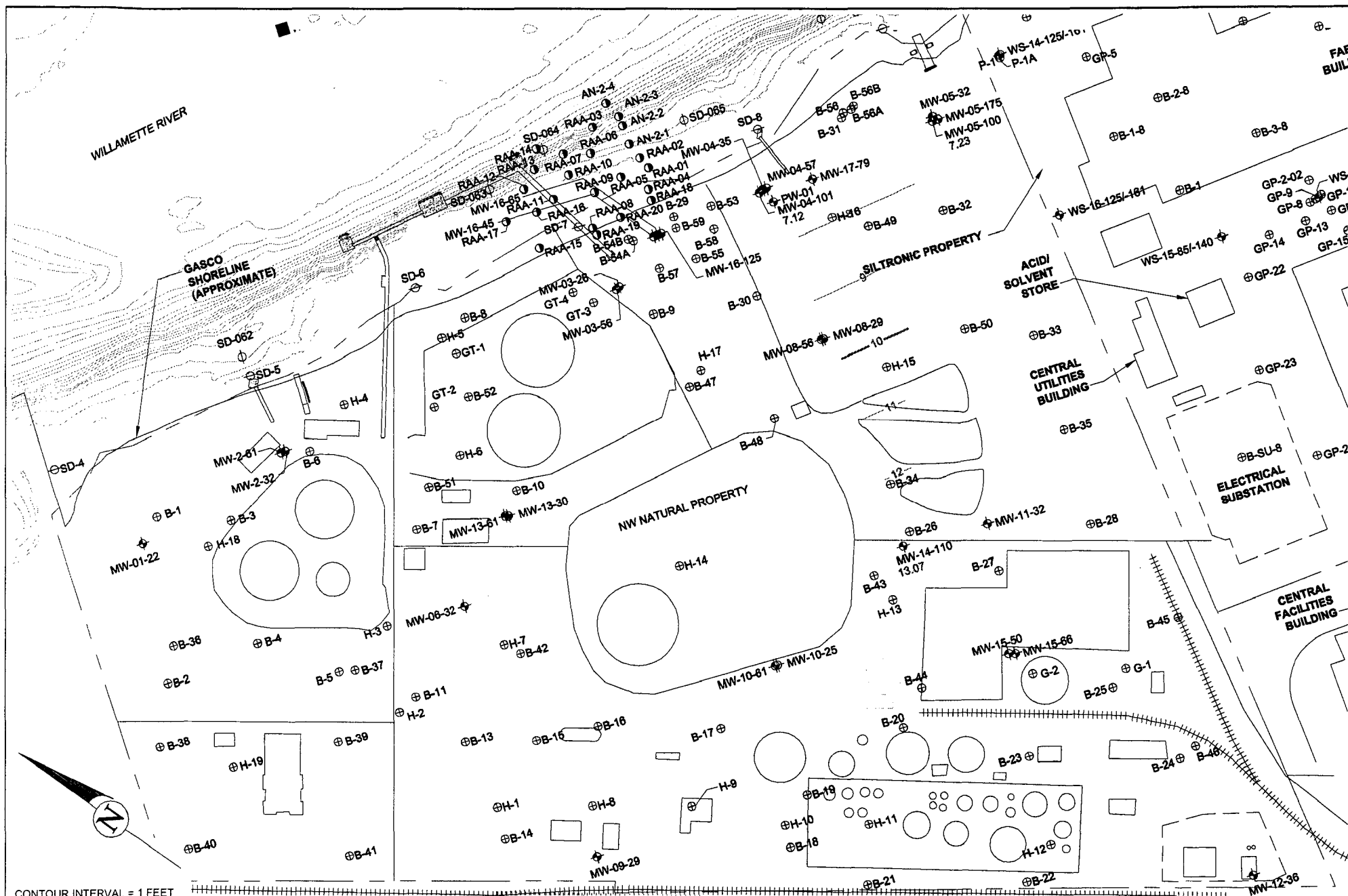
NW NATURAL & SILTRONIC PROPERTIES  
PORTLAND, OREGON

#### NOTES:

Willamette River bathymetry based on May 2003 survey provided by the Lower Willamette Group.



Koppers001504

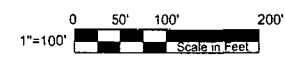


CONTOUR INTERVAL = 1 FEET

- LEGEND
- Monitoring Well
  - Soil Boring
  - Sediment Sample (Anchor)
  - Property Line (Approximate)
  - Isocountour Line
  - Groundwater Elevation

23.79 Groundwater Elevation  
(feet MSL, City of Portland Datum)

HAHN AND ASSOCIATES, INC.  
ENVIRONMENTAL CONSULTANTS  
434 NW 6th AVENUE, SUITE 203  
PORTLAND, OREGON 97209  
503-796-0717



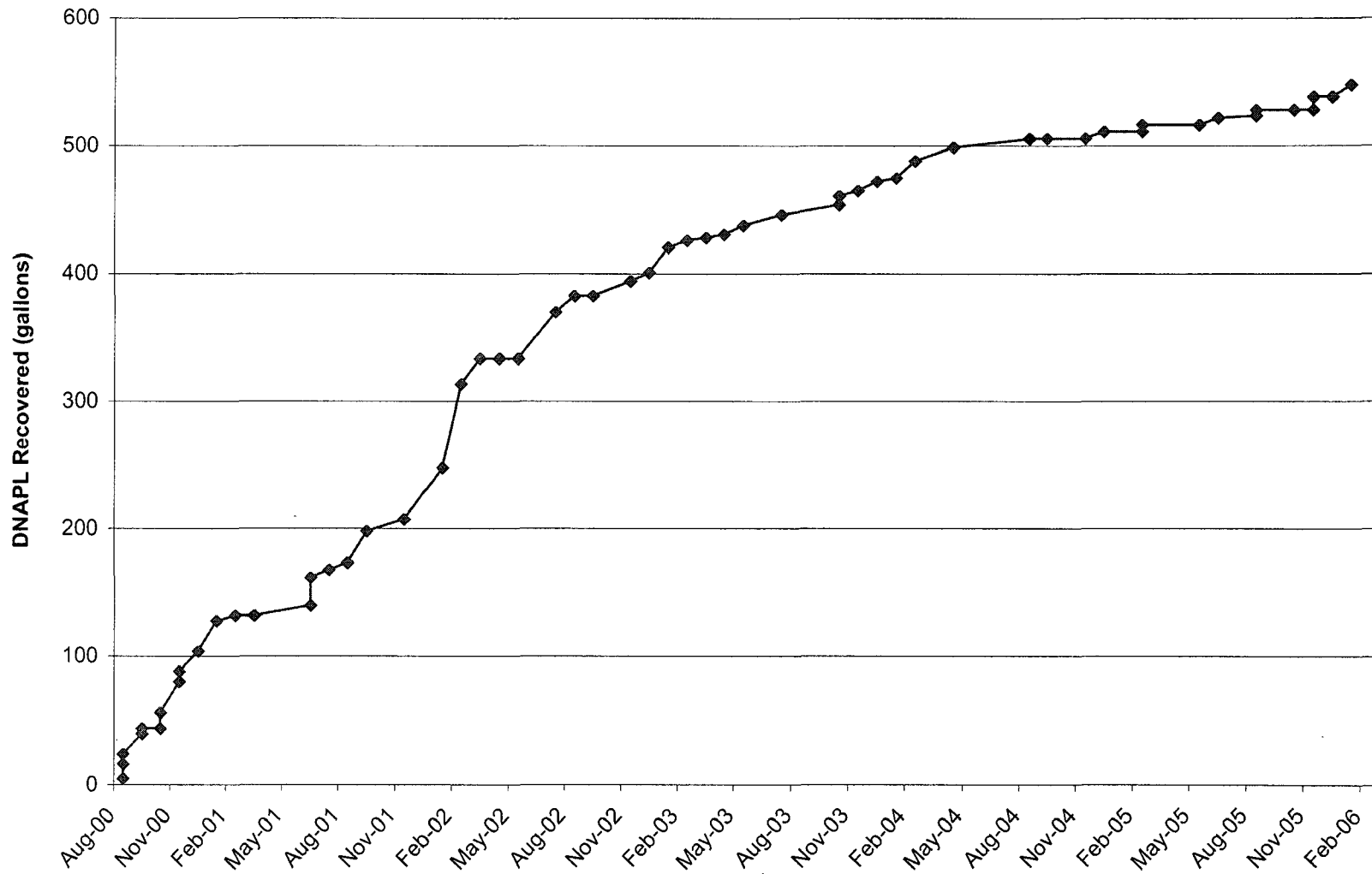
Project No. 2708-5237 APRIL 2005

FIGURE 8  
GROUND WATER ELEVATION MAP  
ALLUVIAL WBZ WELLS - 85 TO 125' BGS (INTERMEDIATE)  
DECEMBER 7, 2005

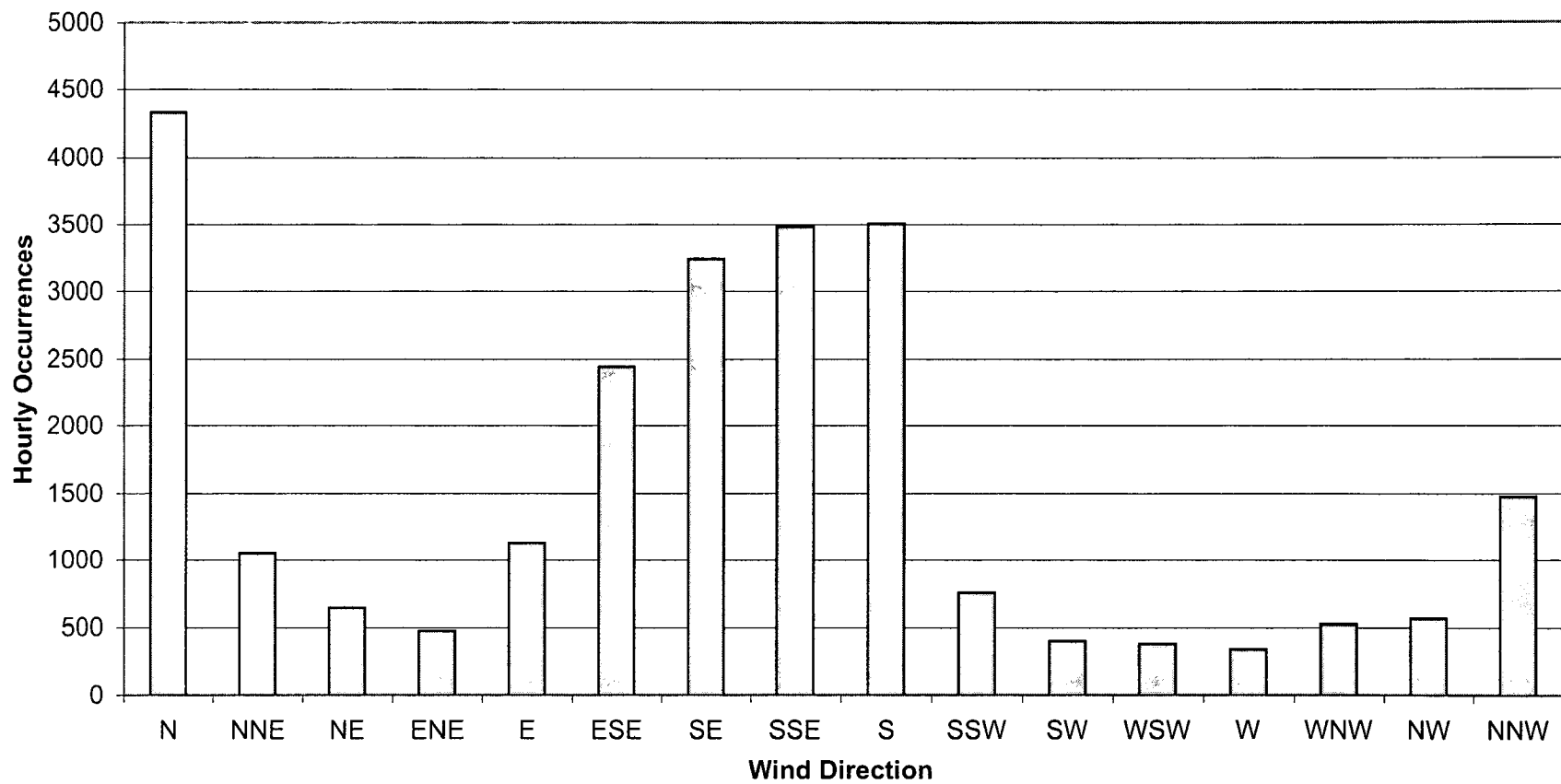
NW NATURAL & SILTRONIC PROPERTIES  
PORTLAND OREGON

NOTES:  
Willamette River bathymetry based on May 2003  
survey provided by the Lower Willamette Group.

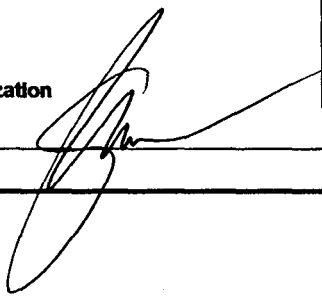
**Figure 9**  
**Cumulative DNAPL Recovery Volume Through Time: Well MW-6-32**  
**NW Natural - Gasco Facility**



**Figure 11**  
**Wind Direction Summary**  
**March 2002 Through December 2005**  
**NW Natural Gasco Site**  
**Portland, Oregon**



Vendor Name Columbia Inspection

G/L	Detail	Subdetail	Location	Department	Tax	Emp No.	Move No./ PO No.	Amount	Inv No.	Date
305	<b>807</b>		9270	925	0362			<b>\$98</b>	<b>5412069</b>	<b>12/16/2004</b>
									<b>Vendor Number</b>	
									<b>014327008</b>	
									<b>Net 30 days</b>	
<b>Authorization</b> 				<b>Gross Amount</b>				<b>\$97.75</b>	<b>Terms</b>	<b>Due</b>
				<b>Discount</b>					<b>Code</b>	<b>Date</b>
				<b>Net</b>				<b>\$97.75</b>	<b>055</b>	<b>1/16/2005</b>
								<b>Division</b> 483	<b>12</b>	<b>92704120023</b>





# COLUMBIA INSPECTION, INC.

U.S Customs Approved Gaugers  
Petroleum and Environmental Laboratory  
Tank Calibrations

**INVOICE**

**Invoice Number:** 5412069

**Invoice Date:** 12/16/04

Page 1 of 1

071  
Attn: T.J. Turner  
**Koppers Industries, Inc.**  
7540 NW St. Helens Road  
Portland, OR 97210-3663

**Received**  
12/08/04

**Client**  
Koppers Industries, Inc.  
**Project**  
Stormwater Tanks

**Work Order(s)**  
4120805

**Comments**

DEC 21 2004

**Project Number**  
[none]

**PO Number**  
NA

QUANTITY	ANALYSIS/DESCRIPTION	MATRIX	UNIT COST	EXTENDED COST
1	O & G, TOTAL (HEM) [1 day]	Water	\$51.00	\$51.00
1	PHENOLS, TOTAL [1 day]	Water	\$46.75	\$46.75

**Invoice Total: \$97.75**

COLUMBIA INSPECTION, INC 7133 N. Lombard, Portland, OR 97203 Phone:(503) 286-9464 Fax:(503) 286-5355 E-mail:lab@ColumbiaInspection.com

All work performed is subject to the terms and conditions of our current schedule of rates. Liability is limited to the amount of this

**Terms - Net 15 Days**

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PO Box 83569, St. Johns Station  
Portland, OR 97283

**ORIGINAL**

Koppers001508



# CERTIFICATE OF ANALYSIS

CLIENT: Koppers Industries, Inc.  
ATTN: Amos Kamerer  
7540 NW St. Helens Road  
Portland OR, 97210-3663

PROJECT NAME: Stormwater Tanks

PHONE: (503) 286-3681

FAX: (503) 285-2831

SUBMITTED: 12/08/04 09:20

REPORT DATE: 12/16/04 14:35

REPORT NUMBER: 4120805

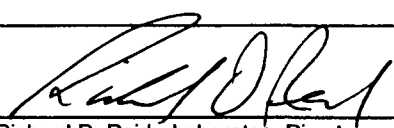
PAGE: 1 OF 1

CI SAMPLE	CLIENTS ID#	DATE	TIME	MATRIX
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SAMPLE/ ANALYSIS	METHOD	PARAMETER	RESULTS	UNITS	DETECTION LIMIT	TECH	DATE/TIME
4120805-01	SAMPLE ID: Stormwater Tanks						
General Bench Analysis							
O & G, TOTAL (HEM)	EPA 1664	TOTAL OIL AND GREASE	ND	mg/L	2.0	PA	12/09/2004 08:22
PHENOLS, TOTAL	EPA 420.1	TOTAL RECOVERABLE PHENOLICS	0.056	mg/L	0.050	AKH	12/09/2004 09:55

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Authorized for Release By:

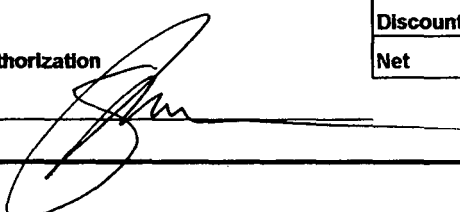
  
Richard D. Reid - Laboratory Director

COLUMBIA INSPECTION, INC 7133 N. Lombard, Portland, OR 97203 Phone: (503) 286-9464 Fax: (503) 286-5355 E-mail: lab@columbiainspection.com

COPY

Koppers001509

Vendor Name Columbia Inspection

G/L	Detail	Subdetail	Location	Department	Tax	Emp No.	Move No./ PO No.	Amount	Inv No.	Date
305	<b>807</b>		9270	925	0362			<b>\$51</b>	<b>5411099</b>	<b>11/26/2004</b>
									<b>Vendor Number</b>	
									<b>014327008</b>	
									<b>Net 30 days</b>	
<b>Authorization</b> 				<b>Gross Amount</b>		<b>\$51.00</b>		<b>Terms</b>	<b>Due</b>	
				<b>Discount</b>				<b>Code</b>	<b>Date</b>	
				<b>Net</b>		<b>\$51.00</b>		<b>055</b>	<b>12/26/2004</b>	
						<b>Division</b> 483		<b>12</b>	<b>92704120001</b>	



# COLUMBIA INSPECTION, INC.

U.S Customs Approved Gaugers  
Petroleum and Environmental Laboratory  
Tank Calibrations

**INVOICE**

**Invoice Number:** 5411099

**Invoice Date:** 11/26/04

Page 1 of 1

071  
Attn: Amos Kamerer  
**Koppers Industries, Inc.**  
7540 NW St. Helens Road  
Portland, OR 97210-3663

**Received**  
11/23/04

**Client**  
Koppers Industries, Inc.

**Project**  
Stormwater Tanks

**Work Order(s)**  
4112302

**Comments**  
Stormwater Tanks

**Project Number**  
[none]

**PO Number**  
NA

QUANTITY	ANALYSIS/DESCRIPTION	MATRIX	UNIT COST	EXTENDED COST
1	O & G, TOTAL (HEM) [1 day]	Water	\$51.00	\$51.00

**Invoice Total: \$51.00**

COLUMBIA INSPECTION, INC 7133 N. Lombard, Portland, OR 97203 Phone:(503) 286-9464 Fax:(503) 286-5355 E-mail:lab@ColumbiaInspection.com

All work performed is subject to the terms and conditions of our current schedule of rates. Liability is limited to the amount of this

**Terms - Net 15 Days**

*Thank you for doing business with Columbia Inspection*

Please state invoice number and remit to:

**Columbia Inspection, Inc.**  
PO Box 83569, St. Johns Station  
Portland, OR 97283

**ORIGINAL**

Koppers001511



# CERTIFICATE OF ANALYSIS

CLIENT: Koppers Industries, Inc.  
ATTN: T.J. Turner  
7540 NW St. Helens Road  
Portland OR, 97210-3663

PROJECT NAME: Stormwater Tanks

PHONE: (503) 286-3681  
FAX: (503) 285-2831

SUBMITTED: 11/23/04 11:40

REPORT DATE: 11/26/04 09:13

REPORT NUMBER: 4112302


PAGE: 1 OF 1

CI SAMPLE	CLIENTS ID#	DATE	TIME	MATRIX
4112302-01	Stormwater Tank	11/23/2004	0945	Water

SAMPLE/ ANALYSIS	METHOD	PARAMETER	RESULTS	UNITS	DETECTION LIMIT	TECH	DATE/TIME
4112302-01	SAMPLE ID: Stormwater Tank						
General Bench Analysis							
O & G, TOTAL (HEM)	EPA 1664	TOTAL OIL AND GREASE	ND	mg/L	2.0	AKH	11/24/2004 15:05

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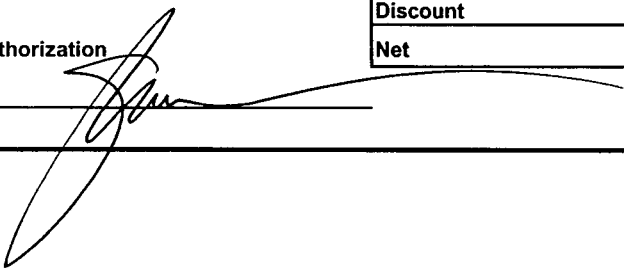
  
Richard D. Reid - Laboratory Director

COLUMBIA INSPECTION, INC 7133 N. Lombard, Portland, OR 97203 Phone: (503) 286-9464 Fax: (503) 286-5355 E-mail: lab@columbiainspection.com

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Koppers001512

Vendor Name Columbia Inspection

G/L	Detail	Subdetail	Location	Department	Tax	Emp No.	Move No./ PO No.	Amount	Inv No.	Date
305	<b>807</b>		9270	925	0362			<b>\$98</b>	<b>5411037</b>	<b>11/9/2004</b>
									Vendor Number	
									<b>014327008</b>	
									Net 30 days	
Authorization 				Gross Amount				\$97.75	Terms	Due
				Discount					Code	Date
				Net				<b>\$97.75</b>	<b>055</b>	<b>12/9/2004</b>
				Division 483				<b>11</b>	<b>92704110013</b>	



# COLUMBIA INSPECTION, INC.

U.S Customs Approved Gaugers  
Petroleum and Environmental Laboratory  
Tank Calibrations

INVOICE

Invoice Number: 5411037

Invoice Date: 11/09/04

Page 1 of 1

071  
Attn: T.J. Turner  
**Koppers Industries, Inc.**  
7540 NW St. Helens Road  
Portland, OR 97210-3663

Received  
11/04/04

Client  
Koppers Industries, Inc.

Project  
Stormwater Tanks

Work Order(s)  
4110405

Comments

Project Number  
[none]

PO Number  
NA

QUANTITY	ANALYSIS/DESCRIPTION	MATRIX	UNIT COST	EXTENDED COST
1	O & G, TOTAL (HEM) [1 day]	Water	51.00 <del>\$102.00</del>	\$102.00
1	PHENOLS, TOTAL [1 day]	Water	46.75 \$93.50	\$93.50

Invoice Total: ~~\$195.50~~

*\$197.75*

ORIGINAL

COLUMBIA INSPECTION, INC 7133 N. Lombard, Portland, OR 97203 Phone:(503) 286-9464 Fax:(503) 286-5355 E-mail:lab@ColumbiaInspection.com

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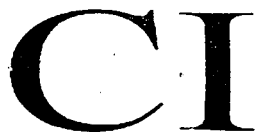
**Terms - Net 15 Days**

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Portland, OR 97283

Koppers001514



# CERTIFICATE OF ANALYSIS

CLIENT: Koppers Industries, Inc.  
ATTN: Amos Kamerer  
7540 NW St. Helens Road  
Portland OR, 97210-3663

PROJECT NAME: Stormwater Tanks

PHONE: (503) 286-3681  
FAX: (503) 285-2831

SUBMITTED: 11/04/04 10:50

REPORT DATE: 11/08/04 09:10

REPORT NUMBER: 4110405

PAGE: 1 OF 1

CI SAMPLE	CLIENTS ID#	DATE	TIME	MATRIX
4110405-01	Stormwater Tanks	11/04/2004	0900	Water

SAMPLE/ ANALYSIS	METHOD	PARAMETER	RESULTS	UNITS	DETECTION LIMIT	TECH	DATE/TIME
<b>4110405-01</b> <b>SAMPLE ID: Stormwater Tanks</b>							
General Bench Analysis							
O & G, TOTAL (HEM) EPA 1664		TOTAL OIL AND GREASE	ND	mg/L	2.0	PA	11/05/2004 12:49
PHENOLS, TOTAL EPA 420.1		TOTAL RECOVERABLE PHENOLICS	ND	mg/L	0.050	AKH	11/05/2004 12:45

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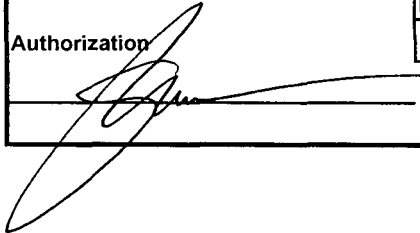
Richard D. Reid - Laboratory Director

COLUMBIA INSPECTION, INC 7133 N. Lombard, Portland, OR 97203 Phone:(503) 286-9464 Fax:(503) 286-5355 E-mail:lab@ColumbiaInspection.com

Koppers001515



Vendor Name Columbia Inspection

G/L	Detail	Subdetail	Location	Department	Tax	Emp No.	Move No./ PO No.	Amount	Inv No.	Date
305	<b>807</b>		9270	925	0362			<b>\$51</b>	<b>5410098</b>	<b>10/27/2004</b>
									Vendor Number	
									<b>014327008</b>	
									Net 30 days	
Authorization 				Gross Amount				\$51.00	Terms	Due
				Discount					Code	Date
				Net				<b>\$51.00</b>	<b>055</b>	<b>10/25/2004</b>
				Division				11		
				483				<b>10</b>	<b>92704110012</b>	



# COLUMBIA INSPECTION, INC.

U.S Customs Approved Gaugers  
Petroleum and Environmental Laboratory  
Tank Calibrations

INVOICE

Invoice Number: 5410098

Invoice Date: 10/27/04

Page 1 of 1

071  
Attn: T.J. Turner  
**Koppers Industries, Inc.**  
7540 NW St. Helens Road  
Portland, OR 97210-3663

Received  
10/22/04

Client  
Koppers Industries, Inc.

Project  
Stormwater Tanks

Work Order(s)  
4102201

Comments

Project Number  
[none]

PO Number  
NA

QUANTITY	ANALYSIS/DESCRIPTION	MATRIX	UNIT COST	EXTENDED COST
1	O & G, TOTAL (HEM) [1 day]	Water	\$51.00	\$51.00

Invoice Total: \$51.00

OCT 29 2004

ORIGINAL

COLUMBIA INSPECTION, INC 7133 N. Lombard, Portland, OR 97203 Phone:(503) 286-9464 Fax:(503) 286-5355 E-mail:lab@ColumbiaInspection.com

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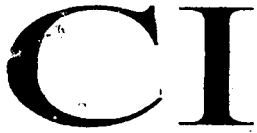
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PO Box 83569, St. Johns Station  
Portland, OR 97283

Koppers001517



# CERTIFICATE OF ANALYSIS

CLIENT: Koppers Industries, Inc.  
ATTN: Amos Kameron  
7540 NW St. Helens Road  
Portland OR, 97210-3663

PROJECT NAME: Stormwater Tanks

PHONE: (503) 286-3681  
FAX: (503) 285-2831

SUBMITTED: 10/22/04 09:37

REPORT DATE: 10/26/04 13:24

REPORT NUMBER: 4102201


PAGE: 1 OF 1

CI SAMPLE	CLIENTS ID#	DATE	TIME	MATRIX
4102201-01	Stormwater Tank	10/22/2004	0000	Water

SAMPLE/ ANALYSIS	METHOD	PARAMETER	RESULTS	UNITS	DETECTION LIMIT	TECH	DATE/TIME
4102201-01	SAMPLE ID: Stormwater Tank						
General Bench Analysis							
O & G, TOTAL (HEM) EPA 1664		TOTAL OIL AND GREASE	ND	mg/L	2.0	AKH	10/25/2004 12:47

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Richard D. Reid - Laboratory Director

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Koppers001518

**Vendor Name** Columbia Inspection

[illegible]



# COLUMBIA INSPECTION, INC.

U.S Customs Approved Gaugers  
Petroleum and Environmental Laboratory  
Tank Calibrations

**INVOICE**

**Invoice Number:** 5410055

**Invoice Date:** 10/19/04

Page 1 of 1

071  
Attn: Amos Kamerer  
**Koppers Industries, Inc.**  
7540 NW St. Helens Road  
Portland, OR 97210-3663

**Received**  
10/11/04

**Client**  
Koppers Industries, Inc.  
**Project**  
Quarterly Stormwater Test

**Work Order(s)**  
4101101

**Comments**

OCT 22 2004

**Project Number**  
quarterly stormwater

**PO Number**  
NA

QUANTITY	ANALYSIS/DESCRIPTION	MATRIX	UNIT COST	EXTENDED COST
1	O & G, TOTAL (HEM) [1 day]	Water	\$60.00	\$60.00
1	PHENOLS, TOTAL [1 day]	Water	\$82.50	\$82.50
1	PNAH 625 [1 day]	Water	\$292.50	\$292.50
Invoice Total:				<b>\$435.00</b>

ORIGINAL

COLUMBIA INSPECTION, INC 7133 N. Lombard, Portland, OR 97203 Phone:(503) 286-9464 Fax:(503) 286-5355 E-mail:lab@ColumbiaInspection.com

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Portland, OR 97283

Koppers001520



# CERTIFICATE OF ANALYSIS

CLIENT: Koppers Industries, Inc.  
ATTN: Amos Kamerer  
7540 NW St. Helens Road  
Portland OR, 97210-3663

PROJECT NAME: Quarterly Stormwater Test  
PROJECT NUMBER: quarterly stormwater

PHONE: (503) 286-3681  
FAX: (503) 285-2831

SUBMITTED: 10/11/04 11:16

REPORT DATE: 10/19/04 10:07

REPORT NUMBER: 4101101

PAGE: 1 OF 1

CI SAMPLE	CLIENTS ID#	DATE	TIME	MATRIX
4101101-01	Stormwater Tanks	10/11/2004	0700	Water

SAMPLE/ ANALYSIS	METHOD	PARAMETER	RESULTS	UNITS	DETECTION LIMIT	TECH	DATE/TIME
------------------	--------	-----------	---------	-------	-----------------	------	-----------

**4101101-01**      **SAMPLE ID: Stormwater Tanks**  
**General Bench Analysis**

O & G, TOTAL (HEM)	EPA 1664	TOTAL OIL AND GREASE	2.6	mg/L	2.0	AKH	10/12/2004 13:57
PHENOLS, TOTAL	EPA 420.1	TOTAL RECOVERABLE PHENOLICS	0.070	mg/L	0.050	AKH	10/12/2004 15:54

**Semi-Volatile Organics by Gas Chromatography/Mass Spectroscopy**

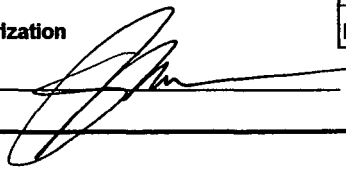
PNAH 625	EPA 625 (SIM)	ACENAPHTHENE	ND	ug/L	0.04	DM	10/12/2004 16:37
		ACENAPHTHYLENE	ND	ug/L	0.04		
		ANTHRACENE	0.6	ug/L	0.04		
		BENZO(a)ANTHRACENE	0.9	ug/L	0.04		
		BENZO(a)PYRENE	1.8	ug/L	0.04		
		BENZO(b)FLUORANTHENE	4.3	ug/L	0.04		
		BENZO(g,h,i)PERYLENE	2.0	ug/L	0.04		
		BENZO(k)FLUORANTHENE	1.5	ug/L	0.04		
		CHRYSENE	1.9	ug/L	0.04		
		DIBENZO(a,h)ANTHRACENE	1.4	ug/L	0.04		
		FLUORANTHENE	3.0	ug/L	0.04		
		FLUORENE	ND	ug/L	0.04		
		INDENO(1,2,3-cd)PYRENE	1.8	ug/L	0.04		
		NAPHTHALENE	ND	ug/L	0.04		
		PHENANTHRENE	ND	ug/L	0.04		
		PYRENE	ND	ug/L	0.04		
		Surrogate: 2-Fluorobiphenyl	82.1 %	%RECOVERY	50-150		
		Surrogate: Nitrobenzene-D5	77.6 %	%RECOVERY	50-150		
		Surrogate: p-terphenyl-D14	97.1 %	%RECOVERY	50-150		

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Richard D. Reid - Laboratory Director

Vendor Name Columbia Inspection

G/L	Detail	Subdetail	Location	Department	Tax	Emp No.	Move No./ PO No.	Amount	Inv No.	Date
305	<b>807</b>		9270	925	0362			<b>\$98</b>	<b>5409096</b>	<b>9/23/2004</b>
									Vendor Number	
									<b>014327008</b>	
									Net 30 days	
Authorization 				Gross Amount				\$97.75	Terms	Due
				Discount					Code	Date
				Net				<b>\$97.75</b>	<b>055</b>	<b>10/23/2004</b>
							Division 483	Month <b>10</b>	Audit No. <b>92704100001</b>	



# COLUMBIA INSPECTION, INC.

U.S Customs Approved Gaugers  
Petroleum and Environmental Laboratory  
Tank Calibrations

**INVOICE**

**Invoice Number:** 5409096

**Invoice Date:** 09/23/04

Page 1 of 1

071  
Attn: T.J. Turner  
**Koppers Industries, Inc.**  
7540 NW St. Helens Road  
Portland, OR 97210-3663

**Received**  
09/21/04

**Client**  
Koppers Industries, Inc.

**Project**  
Stormwater Tanks

**Work Order(s)**  
4092104

**Comments**

**Project Number**  
[none]

**PO Number**  
NA

QUANTITY	ANALYSIS/DESCRIPTION	MATRIX	UNIT COST	EXTENDED COST
1	O & G, TOTAL (HEM) [1 day]	Water	\$51.00	\$51.00
1	PHENOLS, TOTAL [1 day]	Water	\$46.75	\$46.75

**Invoice Total: \$97.75**

ORIGINAL

COLUMBIA INSPECTION, INC 7133 N. Lombard, Portland, OR 97203 Phone:(503) 286-9464 Fax:(503) 286-5355 E-mail:lab@ColumbiaInspection.co

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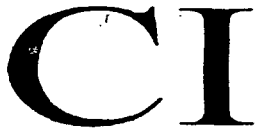
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Portland, OR 97283

Koppers001523





# CERTIFICATE OF ANALYSIS

CLIENT: Koppers Industries, Inc.  
ATTN: T.J. Turner  
7540 NW St. Helens Road  
Portland OR, 97210-3663

PROJECT NAME: Stormwater Tanks

PHONE: (503) 286-3681  
FAX: (503) 285-2831

SUBMITTED: 09/21/04 15:03

REPORT DATE: 09/22/04 14:51

REPORT NUMBER: 4092104

PAGE: 1 OF 1

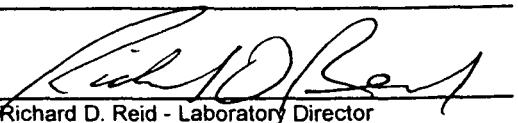
CI SAMPLE	CLIENTS ID#	DATE	TIME	MATRIX
4092104-01	Stormwater	09/21/2004	1115	Water

SAMPLE/ ANALYSIS	METHOD	PARAMETER	RESULTS	UNITS	DETECTION LIMIT	TECH	DATE/TIME
4092104-01	SAMPLE ID: Stormwater						
General Bench Analysis							
O & G, TOTAL (HEM)	EPA 1664	TOTAL OIL AND GREASE	ND	mg/L	2.0	AKH	09/22/2004 14:32
PHENOLS, TOTAL	EPA 420.1	TOTAL RECOVERABLE PHENOLICS	ND	mg/L	0.050	AKH	09/22/2004 14:40

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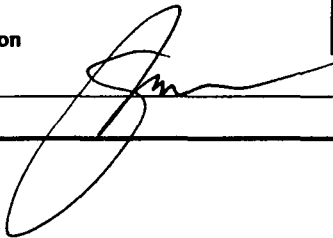
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Richard D. Reid - Laboratory Director

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Koppers001524

Vendor Name Columbia Inspection

G/L	Detail	Subdetail	Location	Department	Tax	Emp No.	Move No./ PO No.	Amount	Inv No.	Date
305	807		9270	925	0362			\$435	5408120	8/25/2004
									Vendor Number	
									014327008	
									Net 30 days	
Authorization 				Gross Amount				\$435.00	Terms	Due
				Discount					Code	Date
				Net				\$435.00	055	9/25/2004
				Division				483	Month	Audit No.
									8	92704080022



# COLUMBIA INSPECTION, INC.

U.S Customs Approved Gaugers  
Petroleum and Environmental Laboratory  
Tank Calibrations

**INVOICE**

**Invoice Number:** 5408120

**Invoice Date:** 08/25/04

Page 1 of 1

071  
Attn: T.J. Turner  
**Koppers Industries, Inc.**  
7540 NW St. Helens Road  
Portland, OR 97210-3663

Received  
08/24/04

Client  
Koppers Industries, Inc.  
Project  
Quarterly Stormwater Test

Work Order(s)  
4082404

Comments

Project Number  
quarterly stormwater

PO Number  
NA

QUANTITY	ANALYSIS/DESCRIPTION	MATRIX	UNIT COST	EXTENDED COST
1	O & G, TOTAL (HEM) [1 day]	Water	\$60.00	\$60.00
1	PHENOLS, TOTAL [1 day]	Water	\$82.50	\$82.50
1	PNAH 625 [1 day]	Water	\$292.50	\$292.50

Invoice Total: **\$435.00**

**AUG 27 2004**

**ORIGINAL**

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Portland, OR 97283

Koppers001526



# CERTIFICATE OF ANALYSIS

CLIENT: Koppers Industries, Inc.  
ATTN: T.J. Turner  
7540 NW St. Helens Road  
Portland OR, 97210-3663

PROJECT NAME: Quarterly Stormwater Test  
PROJECT NUMBER: quarterly stormwater

PHONE: (503) 286-3681  
FAX: (503) 285-2831

SUBMITTED: 08/24/04 10:55

REPORT DATE: 08/25/04 14:50

REPORT NUMBER: 4082404

PAGE: 1 OF 1

CI SAMPLE	CLIENTS ID#	DATE	TIME	MATRIX
4082404-01	Stormwater Tanks	08/24/2004	0800	Water

SAMPLE/ ANALYSIS	METHOD	PARAMETER	RESULTS	UNITS	DETECTION LIMIT	TECH	DATE/TIME
<b>4082404-01 SAMPLE ID: Stormwater Tanks</b>							
<b>General Bench Analysis</b>							
O & G, TOTAL (HEM)	EPA 1664	TOTAL OIL AND GREASE	2.2	mg/L	2.0	AKH	08/25/2004 13:22
PHENOLS, TOTAL	EPA 420.1	TOTAL RECOVERABLE PHENOLICS	ND	mg/L	0.050	AKH	08/25/2004 15:03
<b>Semi-Volatile Organics by Gas Chromatography/Mass Spectroscopy</b>							
PNAH 625	EPA 625 (SIM)	ACENAPHTHENE	ND	ug/L	0.04	DM	08/25/2004 14:12
		ACENAPHTHYLENE	ND	ug/L	0.04		
		ANTHRACENE	ND	ug/L	0.04		
		BENZO(a)ANTHRACENE	0.7	ug/L	0.04		
		BENZO(a)PYRENE	1.8	ug/L	0.04		
		BENZO(b)FLUORANTHENE	1.5	ug/L	0.04		
		BENZO(g,h,i)PERYLENE	ND	ug/L	0.04		
		BENZO(k)FLUORANTHENE	1.6	ug/L	0.04		
		CHRYSENE	ND	ug/L	0.04		
		DIBENZO(a,h)ANTHRACENE	ND	ug/L	0.04		
		FLUORANTHENE	1.5	ug/L	0.04		
		FLUORENE	ND	ug/L	0.04		
		INDENO(1,2,3-cd)PYRENE	ND	ug/L	0.04		
		NAPHTHALENE	ND	ug/L	0.04		
		PHENANTHRENE	ND	ug/L	0.04		
		PYRENE	ND	ug/L	0.04		
		Surrogate: 2-Fluorobiphenyl	102 %	%RECOVERY	50-150		
		Surrogate: Nitrobenzene-D5	84.2 %	%RECOVERY	50-150		
		Surrogate: p-terphenyl-D14	80.2 %	%RECOVERY	50-150		

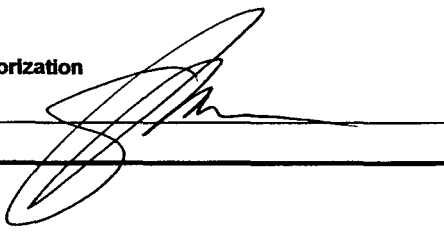
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Richard D. Reid - Laboratory Director

**Vendor Name** Columbia Inspection

G/L	Detail	Subdetail	Location	Department	Tax	Emp No.	Move No./ PO No.	Amount	Inv No.	Date
305	807		9270	925	0362			\$408	5404101	4/22/2004
									Vendor Number	
									014327008	
									Net 30 days	
<b>Authorization</b> 				<b>Gross Amount</b>				\$407.50	<b>Terms</b>	<b>Due</b>
				<b>Discount</b>					<b>Code</b>	<b>Date</b>
				<b>Net</b>				<b>\$407.50</b>	<b>055</b>	<b>5/22/2004</b>
								<b>Division</b> 483	<b>Month</b> 4	<b>Audit No.</b> 92704040024



# COLUMBIA INSPECTION, INC.

U.S Customs Approved Gaugers  
Petroleum and Environmental Laboratory  
Tank Calibrations

**INVOICE**

**Invoice Number:** 5404101

**Invoice Date:** 04/22/04

Page 1 of 1

071  
Attn:T.J. Turner  
**Koppers Industries, Inc.**  
7540 NW St. Helens Road  
Portland, OR 97210-3663

Received  
04/20/04

Client  
Koppers Industries, Inc.  
Project  
Quarterly Stormwater Test

Work Order(s)  
4042002

Comments

APR 29 2004

Project Number  
quarterly stormwater

PO Number  
NA

QUANTITY	ANALYSIS/DESCRIPTION	MATRIX	UNIT COST	EXTENDED COST
1	O & G, TOTAL (HEM) [1 day]	Water	\$60.00	\$60.00
1	PHENOLS, TOTAL [1 day]	Water	\$55.00	\$55.00
1	PNAH 625 [1 day]	Water	\$292.50	\$292.50
			<b>Invoice Total:</b>	<b>\$407.50</b>

**ORIGINAL**

COLUMBIA INSPECTION, INC 7133 N. Lombard, Portland, OR 97203 Phone:(503) 286-9464 Fax:(503) 286-5355 E-mail:lab@ColumbiaInspection.com

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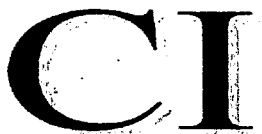
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**Columbia Inspection, Inc.**  
PO Box 83569, St. Johns Station  
Portland, OR 97283

Koppers001529



# CERTIFICATE OF ANALYSIS

CLIENT: Koppers Industries, Inc.  
ATTN: Amos Kameron  
7540 NW St. Helens Road  
Portland OR, 97210-3663

PROJECT NAME: Quarterly Stormwater Test  
PROJECT NUMBER: quarterly stormwater

PHONE: (503) 286-3681  
FAX: (503) 285-2831

SUBMITTED: 04/20/04 08:35

REPORT DATE: 04/22/04 10:49

REPORT NUMBER: 4042002

PAGE: 1 OF 1


CI SAMPLE	CLIENTS ID#	DATE	TIME	MATRIX
4042002-01	Stormwater Tanks	04/20/2004	0820	Water

SAMPLE/ ANALYSIS	METHOD	PARAMETER	RESULTS	UNITS	DETECTION LIMIT	TECH	DATE/TIME
<b>4042002-01 SAMPLE ID: Stormwater Tanks</b>							
<b>General Bench Analysis</b>							
O & G, TOTAL (HEM)	EPA 1664	TOTAL OIL AND GREASE	ND	mg/L	2.0	AKH	04/21/2004 11:04
PHENOLS, TOTAL	EPA 420.1	TOTAL RECOVERABLE PHENOLICS	0.15	mg/L	0.050	AKH	04/21/2004 10:56
<b>Semi-Volatile Organics by Gas Chromatography/Mass Spectroscopy</b>							
PNAH 625	EPA 625 (SIM)	ACENAPHTHENE	4.8	ug/L	0.03	ZZZ	04/20/2004 20:43
		ACENAPHTHYLENE	2.7	ug/L	0.03		
		ANTHRACENE	4.5	ug/L	0.03		
		BENZO(a)ANTHRACENE	5.6	ug/L	0.03		
		BENZO(a)PYRENE	12.1	ug/L	0.03		
		BENZO(b)FLUORANTHENE	10.5	ug/L	0.03		
		BENZO(g,h,i)PERYLENE	12.0	ug/L	0.03		
		BENZO(k)FLUORANTHENE	7.5	ug/L	0.03		
		CHRYSENE	5.6	ug/L	0.03		
		DIBENZO(a,h)ANTHRACENE	8.9	ug/L	0.03		
		FLUORANTHENE	9.9	ug/L	0.03		
		FLUORENE	2.7	ug/L	0.03		
		INDENO(1,2,3-cd)PYRENE	13.1	ug/L	0.03		
		NAPHTHALENE	1.4	ug/L	0.03		
		PHENANTHRENE	2.8	ug/L	0.03		
		PYRENE	8.7	ug/L	0.03		
		Surrogate: 2-Fluorobiphenyl	62.0 %	%RECOVERY	50-150		
		Surrogate: Nitrobenzene-D5	66.3 %	%RECOVERY	50-150		
		Surrogate: p-terphenyl-D14	94.3 %	%RECOVERY	50-150		

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Petroleum and Environmental Laboratory  
Tank Calibrations

INVOICE

Invoice Number: 5403165

Invoice Date: 03/29/04

Page 1 of 1

071  
Attn:T.J. Turner  
**Koppers Industries, Inc.**  
7540 NW St. Helens Road  
Portland, OR 97210-3663

Received  
03/24/04

Client  
Koppers Industries, Inc.  
Project  
Stormwater Tanks

Work Order(s)  
4032410

Comments

APR 1 2004

Project Number  
[none]

PO Number  
NA

QUANTITY	ANALYSIS/DESCRIPTION	MATRIX	UNIT COST	EXTENDED COST
1	O & G, TOTAL (HEM) [1 day]	Water	\$45.00	\$45.00
1	PHENOLS, TOTAL [1 day]	Water	\$40.00	\$40.00
			Invoice Total:	\$85.00

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Koppers001532



# CERTIFICATE OF ANALYSIS

CLIENT: Koppers Industries, Inc.  
ATTN: Amos Kamerer  
7540 NW St. Helens Road  
Portland OR, 97210-3663

PROJECT NAME: Stormwater Tanks

PHONE: (503) 286-3681  
FAX: (503) 285-2831

SUBMITTED: 03/24/04 15:39

REPORT DATE: 03/29/04 11:48

REPORT NUMBER: 4032410

PAGE: 1 OF 1

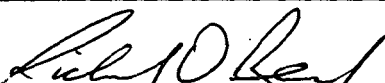
CI SAMPLE	CLIENTS ID#	DATE	TIME	MATRIX
4032410-01	STORMWATER TANKS	03/24/2004	1510	Water

SAMPLE/ ANALYSIS	METHOD	PARAMETER	RESULTS	UNITS	DETECTION LIMIT	TECH	DATE/TIME
<b>4032410-01 SAMPLE ID: STORMWATER TANKS</b>							
General Bench Analysis							
O & G, TOTAL (HEM)	EPA 1664	TOTAL OIL AND GREASE	4.5	mg/L	2.0	PA	03/25/2004 11:33
PHENOLS, TOTAL	EPA 420.1	TOTAL RECOVERABLE PHENOLICS	0.11	mg/L	0.050	AKH	03/25/2004 11:06

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Koppers001533

Vendor Name Columbia Inspection

G/L	Detail	Subdetail	Location	Department	Tax	Emp No.	Move No./ PO No.	Amount	Inv No.	Date
305	807		9270	925	0362			\$1,747	5403076	3/12/2004
									Vendor Number	
									014327008	
									Net 30 days	
Authorization 				Gross Amount				\$1,747.00	Terms	Due
				Discount					Code	Date
				Net				\$1,747.00	055	4/12/2004
				Division				483	Month	Audit No.
									3	92704030026

**Invoice Number:** 5403076**Invoice Date:** 03/12/04

Page 3 of 3

071

**Koppers Industries, Inc.**

7540 NW St. Helens Road

Portland, OR 97210-3663

Attn: T.J. Turner

**PO Number**

NA

**Project**

NPDES Permit Renewal Tests

**Received**

02/26/04

**Work Order(s)**

4022616

**Client**

Koppers Industries, Inc.

**Project Number**

[none]

**Comments**

QUANTITY	ANALYSIS/DESCRIPTION	MATRIX	UNIT COST	EXTENDED COST
1	PH [10 day]	Water	\$15.00	\$15.00
1	PHENOLS, TOTAL [10 day]	Water	\$50.00	\$50.00
1	PHOSPHORUS, TOTAL [10 day]	Water	\$35.00	\$35.00
1	RESIDUAL CHLORINE 1 [10 day]	Water	\$25.00	\$25.00
1	SELENIUM - ICP [10 day]	Water	\$15.00	\$15.00
1	SILVER - ICP [10 day]	Water	\$15.00	\$15.00
1	SULFATE, TURBID. [10 day]	Water	\$30.00	\$30.00
1	SULFIDE [10 day]	Water	\$30.00	\$30.00
1	SULFITE [10 day]	Water	\$30.00	\$30.00
1	SURFACTANTS (MBAS) [10 day]	Water	\$95.00	\$95.00
1	SUSPENDED SOLIDS [10 day]	Water	\$22.00	\$22.00
1	THALLIUM - ICP [10 day]	Water	\$15.00	\$15.00
1	TIN - ICP [10 day]	Water	\$15.00	\$15.00
1	TITANIUM - ICP [10 day]	Water	\$15.00	\$15.00
1	TKN [10 day]	Water	\$45.00	\$45.00
1	TOC [10 day]	Water	\$45.00	\$45.00
1	VOC 624 Extended [10 day]	Water	\$200.00	\$200.00
1	ZINC - ICP [10 day]	Water	\$15.00	\$15.00

**Invoice Total: \$1,747.00****ORIGINAL**

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Koppers001535

**Invoice Number:** 5403076**Invoice Date:** 03/12/04

Page 2 of 3

071

**Koppers Industries, Inc.**

7540 NW St. Helens Road

Portland, OR 97210-3663

Attn: T.J. Turner

**PO Number**

NA

**Project**

NPDES Permit Renewal Tests

**Received**

02/26/04

**Work Order(s)**

4022616

**Client**

Koppers Industries, Inc.

**Project Number**

[none]

**Comments**

QUANTITY	ANALYSIS/DESCRIPTION	MATRIX	UNIT COST	EXTENDED COST
1	ALUMINUM - ICP [10 day]	Water	\$15.00	\$15.00
1	AMMONIA DISTILLATION [10 day]	Water	\$45.00	\$45.00
1	ANTIMONY - ICP [10 day]	Water	\$15.00	\$15.00
1	ARSENIC - ICP [10 day]	Water	\$15.00	\$15.00
1	B/N/A 625 TTO [10 day]	Water	\$395.00	\$395.00
1	BARIUM - ICP [10 day]	Water	\$15.00	\$15.00
1	BERYLLIUM - ICP [10 day]	Water	\$15.00	\$15.00
1	BOD [10 day]	Water	\$45.00	\$45.00
1	BORON-ICP [10 day]	Water	\$15.00	\$15.00
1	CADMIUM - ICP [10 day]	Water	\$15.00	\$15.00
1	CHROMIUM - ICP [10 day]	Water	\$15.00	\$15.00
1	COBALT - ICP [10 day]	Water	\$15.00	\$15.00
1	COD [10 day]	Water	\$35.00	\$35.00
1	COLOR - EPA [10 day]	Water	\$25.00	\$25.00
1	COPPER - ICP [10 day]	Water	\$15.00	\$15.00
1	CYANIDE, TOTAL [10 day]	Water	\$50.00	\$50.00
1	DIGESTION - 3015 [10 day]	Water	\$25.00	\$25.00
1	FECAL COLIFORM [10 day]	Water	\$35.00	\$35.00
1	FLUORIDE - EPA [10 day]	Water	\$25.00	\$25.00
1	IRON - ICP [10 day]	Water	\$15.00	\$15.00
1	LEAD - ICP [10 day]	Water	\$15.00	\$15.00
1	MAGNESIUM - ICP [10 day]	Water	\$15.00	\$15.00
1	MANGANESE - ICP [10 day]	Water	\$15.00	\$15.00
1	MERCURY - CVAA [10 day]	Water	\$45.00	\$45.00
1	MOLYBDENUM - ICP [10 day]	Water	\$15.00	\$15.00
1	NICKEL - ICP [10 day]	Water	\$15.00	\$15.00
1	NITRATE NITROGEN [10 day]	Water	\$25.00	\$25.00
1	O & G, TOTAL (HEM) [10 day]	Water	\$45.00	\$45.00

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**ORIGINAL**

Koppers001536



# COLUMBIA INSPECTION, INC.

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Petroleum and Environmental Laboratory  
Tank Calibrations

**INVOICE**

**Invoice Number:** 5403076

**Invoice Date:** 03/12/04

Page 1 of 3

071

**Koppers Industries, Inc.**  
7540 NW St. Helens Road  
Portland, OR 97210-3663  
Attn: T.J. Turner

**PO Number**

NA

**Project**

NPDES Permit Renewal Tests

**Received**

02/26/04

**Work Order(s)**

4022616

**Client**

Koppers Industries, Inc.

**Project Number**

[none]

**Comments**

QUANTITY	ANALYSIS/DESCRIPTION	MATRIX	UNIT COST	EXTENDED COST
----------	----------------------	--------	-----------	---------------

**ORIGINAL**

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current schedule of rates. Liability  
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Portland, OR 97283

Koppers001537



# CERTIFICATE OF ANALYSIS

CLIENT: Koppers Industries, Inc.  
ATTN: T.J. Turner  
7540 NW St. Helens Road  
Portland OR, 97210-3663

PROJECT NAME: NPDES Permit Renewal Tests

PHONE: (503) 286-3681  
FAX: (503) 285-2831

SUBMITTED: 02/26/04 17:07

REPORT DATE: 03/11/04 15:06

REPORT NUMBER: 4022616

PAGE: 1 OF 5

CI SAMPLE	CLIENTS ID#	DATE	TIME	MATRIX
4022616-01	Stormwater Tank	02/26/2004	1515	Water

SAMPLE/ ANALYSIS	METHOD	PARAMETER	RESULTS	UNITS	DETECTION LIMIT	TECH	DATE/TIME
<b>4022616-01 SAMPLE ID: Stormwater Tank</b>							
General Bench Analysis							
AMMONIA DISTILLATION	EPA 350.2	AMMONIA NITROGEN	0.84	mg/L	0.20	AKH	03/11/2004 08:14
BOD	EPA 405.1	5-DAY BOD TEST	ND	mg/L	5.0	AKH	03/08/2004 09:07
COD	EPA 410.4	CHEMICAL OXYGEN DEMAND	31	mg/L	10	AKH	03/11/2004 12:56
COLOR - EPA	EPA 110.2	COLOR	45	COLOR UNIT		AKH	03/11/2004 07:43
CYANIDE, TOTAL	SM 4500-CN-B-C	CYANIDE	0.0052	mg/L	0.0030	AKH	03/10/2004 09:50
FLUORIDE - EPA	EPA 340.2	FLUORIDE	0.16	mg/L	0.10	AKH	03/04/2004 15:56
NITRATE NITROGEN	SM 4500 NO3-D	NITRATE NITROGEN	2.0	mg/L	0.10	AKH	03/04/2004 15:51
O & G, TOTAL (HEM)	EPA 1664	TOTAL OIL AND GREASE	8.7	mg/L	2.0	PA	02/27/2004 15:52
PH	EPA 150.1/9040	pH	6.71	SU		AKH	02/27/2004 09:23
		TEMPERATURE (C)	22.2	SU			
PHENOLS, TOTAL	EPA 420.1	TOTAL RECOVERABLE PHENOLICS	0.066	mg/L	0.050	AKH	03/01/2004 15:57
PHOSPHORUS, TOTAL	EPA 365.3	PHOSPHORUS	0.072	mg/L	0.010	AKH	03/04/2004 08:47
RESIDUAL CHLORINE 1	EPA 330.4	RESIDUAL CHLORINE	ND	mg/L	0.050	AKH	02/27/2004 13:48
SULFATE, TURBID.	EPA 375.4	SULFATE	5.96	mg/L	5.00	AKH	03/11/2004 13:02
SULFIDE	EPA 376.1	SULFIDE	ND	mg/L	1.0	AKH	03/01/2004 13:23
SULFITE	EPA 377.1	SULFITE	ND	mg/L	1.0	DR	03/11/2004 14:44
SURFACTANTS (MBAS)	SM 5540 C	MBAS, CALCULATED AS LAS	0.12	mg LAS/L	0.020	SUB	03/11/2004 07:29
SUSPENDED SOLIDS	EPA 160.2	TOTAL SUSPENDED SOLIDS	4.0	mg/L	1.0	AKH	03/02/2004 13:43
TKN	SM4500-N, C	TOTAL KJELDAHL NITROGEN	1.5	mg/L	0.20	AKH	03/05/2004 15:36
TOC	EPA 415.1	TOTAL ORGANIC CARBON	4.9	mg/L	0.50	DR	03/11/2004 07:35

## Total Mercury by Cold Vapor Atomic Absorption


MERCURY - CVAA	EPA 245.1/7470A	MERCURY	ND	ug/L	0.200	SUB	03/04/2004 14:45
----------------	-----------------	---------	----	------	-------	-----	------------------

## Total Metals by Inductively Coupled Plasma

ALUMINUM - ICP	EPA 200.7/6010B	ALUMINUM	0.077	mg/L	0.020	BKB	03/01/2004 13:45
ANTIMONY - ICP		ANTIMONY	ND	mg/L	0.005	BKB	03/01/2004 13:45
ARSENIC - ICP		ARSENIC	ND	mg/L	0.010	BKB	03/01/2004 13:45
BARIUM - ICP		BARIUM	0.006	mg/L	0.002	BKB	03/01/2004 13:45
BERYLLIUM - ICP		BERYLLIUM	ND	mg/L	0.0010	BKB	03/01/2004 13:45
BORON-ICP		BORON	0.021	mg/L	0.010	BKB	03/01/2004 13:45
CADMIUM - ICP		CADMIUM	ND	mg/L	0.001	BKB	03/01/2004 13:45
CHROMIUM - ICP		CHROMIUM	ND	mg/L	0.001	BKB	03/01/2004 13:45
COBALT - ICP		COBALT	ND	mg/L	0.010	BKB	03/01/2004 13:45
COPPER - ICP		COPPER	0.011	mg/L	0.001	BKB	03/01/2004 13:45
IRON - ICP		IRON	1.5	mg/L	0.005	BKB	03/01/2004 13:45

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# CERTIFICATE OF ANALYSIS

REPORT DATE: 03/11/04 14:45

REPORT NUMBER: 4022616

PAGE: 2 OF 5

SAMPLE/ ANALYSIS	METHOD	PARAMETER	RESULTS	UNITS	DETECTION LIMIT	TECH	DATE/TIME
4022616-01	SAMPLE ID: Stormwater Tank						
Total Metals by Inductively Coupled Plasma							
LEAD - ICP	EPA 200.7/6010B	LEAD	ND	mg/L	0.001	BKB	03/01/2004 13:45
MAGNESIUM - ICP		MAGNESIUM	2.6	mg/L	0.040	BKB	03/01/2004 13:45
MANGANESE - ICP		MANGANESE	0.19	mg/L	0.001	BKB	03/01/2004 13:45
MOLYBDENUM - ICP		MOLYBDENUM	ND	mg/L	0.001	BKB	03/01/2004 13:45
NICKEL - ICP		NICKEL	ND	mg/L	0.004	BKB	03/01/2004 13:45
SELENIUM - ICP		SELENIUM	ND	mg/L	0.030	BKB	03/01/2004 13:45
SILVER - ICP		SILVER	ND	mg/L	0.010	BKB	03/01/2004 13:45
THALLIUM - ICP		THALLIUM	ND	mg/L	0.070	BKB	03/01/2004 13:45
TIN - ICP		TIN	0.042	mg/L	0.040	BKB	03/01/2004 13:45
TITANIUM - ICP		TITANIUM	ND	mg/L	0.050	BKB	03/01/2004 13:45
ZINC - ICP		ZINC	0.091	mg/L	0.001	BKB	03/01/2004 13:45

## Volatile Organics by Gas Chromatography/Mass Spectroscopy

VOC 624 Extended	EPA 624	ACROLEIN	ND	mg/L	0.1000	PA	03/10/2004 08:24
		ACRYLONITRILE	ND	mg/L	0.1000		
		BENZENE	0.6250	mg/L	0.0005		
		BROMOCHLOROMETHANE	ND	mg/L	0.0005		
		BROMODICHLOROMETHANE	ND	mg/L	0.0005		
		BROMOFORM	ND	mg/L	0.0005		
		CARBON TETRACHLORIDE	ND	mg/L	0.0005		
		CHLOROBENZENE	ND	mg/L	0.0005		
		CHLORODIBROMOMETHANE	ND	mg/L	0.0005		
		CHLOROETHANE	ND	mg/L	0.0005		
		2-CHLOROETHYL VINYL ETHER	ND	mg/L	0.0005		
		tert-BUTYLBENZENE	ND	mg/L	0.0005		
		CHLOROFORM	ND	mg/L	0.0005		
		CHLOROMETHANE	ND	mg/L	0.0005		
		DICHLOROBROMOMETHANE	ND	mg/L	0.0005		
		1,2-DICHLOROBENZENE	ND	mg/L	0.0005		
		1,3-DICHLOROBENZENE	ND	mg/L	0.0005		
		1,4-DICHLOROBENZENE	ND	mg/L	0.0005		
		1,1-DICHLOROETHANE	ND	mg/L	0.0005		
		1,2-DICHLOROETHANE	ND	mg/L	0.0005		
		1,1-DICHLOROETHYLENE	ND	mg/L	0.0005		
		1,2-DICHLOROPROPANE	ND	mg/L	0.0005		
		TRANS-1,3-DICHLOROPROPENE	ND	mg/L	0.0005		
		CIS-1,3-DICHLOROPROPENE	ND	mg/L	0.0005		
		TRANS-1,2-DICHLOROETHENE	ND	mg/L	0.0005		
		CIS-1,2-DICHLOROETHENE	ND	mg/L	0.0005		
		ETHYLBENZENE	0.0164	mg/L	0.0005		
		METHYL BROMIDE	ND	mg/L	0.0005		
		METHYL CHLORIDE	ND	mg/L	0.0005		
		METHYLENE CHLORIDE	ND	mg/L	0.0005		
		METHYL-TERT-BUTYL ETHER (MTBE)	ND	mg/L	0.0005		
		NAPHTHALENE	0.3473	mg/L	0.0005		
		STYRENE	0.0412	mg/L	0.0005		
		1,1,2,2-TETRACHLOROETHANE	ND	mg/L	0.0005		
		TETRACHLOROETHENE	ND	mg/L	0.0005		
		TOLUENE	0.4708	mg/L	0.0005		
		1,1,1-TRICHLOROETHANE	ND	mg/L	0.0005		
		1,1,2-TRICHLOROETHANE	ND	mg/L	0.0005		
		TRICHLOROETHYLENE	ND	mg/L	0.0005		
		TRICHLOROFLUOROMETHANE	ND	mg/L	0.0005		
		VINYL CHLORIDE	ND	mg/L	0.0005		
		DIBROMOMETHANE	ND	mg/L	0.0005		
		1,2-DIBROMOETHANE	ND	mg/L	0.0005		

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# CERTIFICATE OF ANALYSIS

REPORT DATE: 03/11/04 14:45

REPORT NUMBER: 4022616

PAGE: 3 OF 5

SAMPLE/ ANALYSIS	METHOD	PARAMETER	RESULTS	UNITS	DETECTION LIMIT	TECH	DATE/TIME
4022616-01	SAMPLE ID: Stormwater Tank						
Volatile Organics by Gas Chromatography/Mass Spectroscopy							
VOC 624 Extended	EPA 624	1,1,1,2-TETRACHLOROETHANE	ND	mg/L	0.0005	PA	03/10/2004 08:24
		M- & P-XYLENE	0.0748	mg/L	0.0005		
		O-XYLENE	0.0367	mg/L	0.0005		
		1,2,3-TRICHLOROPROPANE	ND	mg/L	0.0005		
		1,2-DIBROMO-3-CHLOROPROPANE	ND	mg/L	0.0005		
		Surrogate: Dibromofluoromethane	94.7 %	%RECOVERY	50-150		
		Surrogate: Fluorobenzene	80.5 %	%RECOVERY	50-150		
		Surrogate: Chlorobenzene-d5	105 %	%RECOVERY	50-150		
		Surrogate: 1,4-Dichlorobenzene-d4	91.9 %	%RECOVERY	50-150		
Semi-Volatile Organics by Gas Chromatography/Mass Spectroscopy							
ACID SEMIVOLS 625	EPA 625	2-CHLOROPHENOL	ND	mg/L	0.0026	DM	03/03/2004 23:16
		P-CHLORO-M-CRESOL	ND	mg/L	0.0026		
		2,4-DICHLOROPHENOL	ND	mg/L	0.0026		
		2,4-DIMETHYLPHENOL	0.0044	mg/L	0.0026		
		2,4-DINITROPHENOL	ND	mg/L	0.0026		
		2-NITROPHENOL	ND	mg/L	0.0026		
		4-NITROPHENOL	ND	mg/L	0.0026		
		PHENOL	0.020	mg/L	0.0026		
		PENTACHLOROPHENOL	ND	mg/L	0.013		
		2,4,5-TRICHLOROPHENOL	ND	mg/L	0.0026		
		2,4,6-TRICHLOROPHENOL	ND	mg/L	0.0026		
		4,6-DINITRO-O-CRESOL	ND	mg/L	0.013		
		Surrogate: Phenol-d6	25.1 %	%RECOVERY	10-150		
		Surrogate: 2,4,6-Tribromophenol	81.5 %	%RECOVERY	50-150		
B/N SEMIVOL 625		ACENAPHTHENE	ND	mg/L	0.0025	DM	03/03/2004 23:16
		ACENAPHTHYLENE	ND	mg/L	0.0025		
		a-TERPINEOL	ND	mg/L	0.0025		
		ANTHRACENE	ND	mg/L	0.0025		
		BENZIDINE	ND	mg/L	0.0050		
		BENZO(a)ANTHRACENE	ND	mg/L	0.0025		
		BENZO(a)PYRENE	ND	mg/L	0.0025		
		BENZO(k)FLUORANTHENE	ND	mg/L	0.0025		
		BENZO(g,h,i)PERYLENE	ND	mg/L	0.0025		
		BENZO(b)FLUORANTHENE	ND	mg/L	0.0025		
		BIS(2-CHLOROETHOXY)METHANE	ND	mg/L	0.0025		
		BIS(2-CHLOROETHYL)ETHER	ND	mg/L	0.0025		
		BIS(2-CHLOROISOPROPYL)ETHER	ND	mg/L	0.0025		
		BIS(2-ETHYLHEXYL)PHTHALATE	0.0052	mg/L	0.0025		
		BUTYL BENZYL PHTHALATE	ND	mg/L	0.0025		
		4-BROMOPHENYL PHENYL ETHER	ND	mg/L	0.0025		
		CARBAZOLE	ND	mg/L	0.0025		
		2-CHLORONAPHTHALENE	ND	mg/L	0.0025		
		4-CHLOROPHENYL PHENYL ETHER	ND	mg/L	0.0025		
		CHRYSENE	ND	mg/L	0.0025		
		N-DECANE	ND	mg/L	0.0025		
		DIBENZO(a,h)ANTHRACENE	ND	mg/L	0.0025		
		3,3-DICHLOROBENZIDINE	ND	mg/L	0.0050		
		1,2-DICHLOROBENZENE	ND	mg/L	0.0025		
		1,3-DICHLOROBENZENE	ND	mg/L	0.0025		
		1,4-DICHLOROBENZENE	ND	mg/L	0.0025		
		DIETHYL PHTHALATE	0.012	mg/L	0.0025		
		DIMETHYL PHTHALATE	ND	mg/L	0.0025		
		DI-N-BUTYL PHTHALATE	ND	mg/L	0.0025		
		DI-N-OCTYL PHTHALATE	ND	mg/L	0.0025		
		2,4-DINITROTOLUENE	ND	mg/L	0.0050		

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# CERTIFICATE OF ANALYSIS

REPORT DATE: 03/11/04 14:45

REPORT NUMBER: 4022616

PAGE: 4 OF 5

SAMPLE/ ANALYSIS	METHOD	PARAMETER	RESULTS	UNITS	DETECTION LIMIT	TECH	DATE/TIME
<b>4022616-01 SAMPLE ID: Stormwater Tank</b>							
Semi-Volatile Organics by Gas Chromatography/Mass Spectroscopy							
B/N SEMIVOL 625	EPA 625	1,2-DIPHENYLHYDRAZINE (as AZOBENZENE)	ND	mg/L	0.0025	DM	03/03/2004 23:16
		2,6-DINITROTOLUENE	ND	mg/L	0.0050		
		FLUORANTHENE	ND	mg/L	0.0025		
		FLUORENE	ND	mg/L	0.0025		
		HEXACHLOROBENZENE	ND	mg/L	0.0025		
		HEXACHLOROBUTADIENE	ND	mg/L	0.0025		
		HEXACHLOROCYCLOPENTADIENE	ND	mg/L	0.012		
		HEXACHLOROETHANE	ND	mg/L	0.0025		
		INDENO(1,2,3-cd)PYRENE	ND	mg/L	0.0025		
		ISOPHORONE	ND	mg/L	0.0025		
		NAPHTHALENE	ND	mg/L	0.0025		
		NITROBENZENE	ND	mg/L	0.0025		
		N-NITROSODIMETHYLAMINE	ND	mg/L	0.0025		
		N-NITROSODIPHENYLAMINE	ND	mg/L	0.0025		
		N-NITROSO-DI-N-PROPYLAMINE	ND	mg/L	0.0025		
		N-OCTADECANE	ND	mg/L	0.0025		
		PHENANTHRENE	ND	mg/L	0.0025		
		PYRENE	ND	mg/L	0.0025		
		1,2,4-TRICHLOROBENZENE	ND	mg/L	0.0025		
		Surrogate: 2-Fluorobiphenyl	60.0 %	%RECOVERY	50-150		
		Surrogate: Nitrobenzene-D5	83.3 %	%RECOVERY	50-150		
		Surrogate: p-terphenyl-D14	73.5 %	%RECOVERY	50-150		
Semi-Volatile Organics by Gas Chromatography/ECD							
PCBs 625	EPA 625 (SCAN)	AROCHLOR 1016	ND	mg/L	0.0012	DM	03/08/2004 16:41
		AROCHLOR 1221	ND	mg/L	0.0012		
		AROCHLOR 1232	ND	mg/L	0.0012		
		AROCHLOR 1242	ND	mg/L	0.0012		
		AROCHLOR 1248	ND	mg/L	0.0012		
		AROCHLOR 1254	ND	mg/L	0.0012		
		AROCHLOR 1260	ND	mg/L	0.0012		
PESTICIDES 625	EPA 625 (SIM)	ALDRIN	ND	mg/L	0.0017	DM	03/08/2004 15:47
		ALPHA-BHC	ND	mg/L	0.00083		
		BETA-BHC	ND	mg/L	0.0017		
		GAMMA-BHC (LINDANE)	ND	mg/L	0.00083		
		DELTA-BHC	ND	mg/L	0.0017		
		4,4-DDD	ND	mg/L	0.0033		
		4,4-DDE	ND	mg/L	0.0017		
		CHLORDANE	ND	mg/L	0.0017		
		4,4-DDT	ND	mg/L	0.0033		
		DIELDRIN	ND	mg/L	0.0017		
		ENDOSULFAN I	ND	mg/L	0.0017		
		ENDOSULFAN II	ND	mg/L	0.0033		
		ENDOSULFAN SULFATE	ND	mg/L	0.0033		
		ENDRIN	ND	mg/L	0.0017		
		ENDRIN ALDEHYDE	ND	mg/L	0.0042		
		ENDRIN KETONE	ND	mg/L	0.0042		
		HEPTACHLOR	ND	mg/L	0.0017		
		HEPTACHLOR EPOXIDE	ND	mg/L	0.0017		
		METHOXYCHLOR	ND	mg/L	0.0042		
		TOXAPHENE	ND	mg/L	0.033		
Subcontracted Analysis							
FECAL COLIFORM	SM 9222 D	FECAL COLIFORM	23	CFU/100 ml	2.0	SUB	03/11/2004 07:29

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Petroleum and Environmental Laboratory  
Tank Calibrations

**INVOICE**

**Invoice Number:** 5403076

**Invoice Date:** 03/12/04

Page 1 of 3

071

**Koppers Industries, Inc.**  
7540 NW St. Helens Road  
Portland, OR 97210-3663  
Attn: T.J. Turner

**PO Number**

NA

**Project**

NPDES Permit Renewal Tests

**Received**

02/26/04

**Work Order(s)**

4022616

**Client**

Koppers Industries, Inc.

**Project Number**

[none]

**Comments**

QUANTITY	ANALYSIS/DESCRIPTION	MATRIX	UNIT COST	EXTENDED COST
----------	----------------------	--------	-----------	---------------

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Koppers001542

**Invoice Number:** 5403076**Invoice Date:** 03/12/04

Page 2 of 3

071

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7540 NW St. Helens Road  
Portland, OR 97210-3663  
Attn: T.J. Turner

**PO Number**

NA

**Project**

NPDES Permit Renewal Tests

**Received**

02/26/04

**Work Order(s)**

4022616

**Client**

Koppers Industries, Inc.

**Project Number**

[none]

**Comments**

QUANTITY	ANALYSIS/DESCRIPTION	MATRIX	UNIT COST	EXTENDED COST
1	ALUMINUM - ICP [10 day]	Water	\$15.00	\$15.00
1	AMMONIA DISTILLATION [10 day]	Water	\$45.00	\$45.00
1	ANTIMONY - ICP [10 day]	Water	\$15.00	\$15.00
1	ARSENIC - ICP [10 day]	Water	\$15.00	\$15.00
1	B/N/A 625 TTO [10 day]	Water	\$395.00	\$395.00
1	BARIUM - ICP [10 day]	Water	\$15.00	\$15.00
1	BERYLLIUM - ICP [10 day]	Water	\$15.00	\$15.00
1	BOD [10 day]	Water	\$45.00	\$45.00
1	BORON-ICP [10 day]	Water	\$15.00	\$15.00
1	CADMIUM - ICP [10 day]	Water	\$15.00	\$15.00
1	CHROMIUM - ICP [10 day]	Water	\$15.00	\$15.00
1	COBALT - ICP [10 day]	Water	\$15.00	\$15.00
1	COD [10 day]	Water	\$35.00	\$35.00
1	COLOR - EPA [10 day]	Water	\$25.00	\$25.00
1	COPPER - ICP [10 day]	Water	\$15.00	\$15.00
1	CYANIDE, TOTAL [10 day]	Water	\$50.00	\$50.00
1	DIGESTION - 3015 [10 day]	Water	\$25.00	\$25.00
1	FECAL COLIFORM [10 day]	Water	\$35.00	\$35.00
1	FLUORIDE - EPA [10 day]	Water	\$25.00	\$25.00
1	IRON - ICP [10 day]	Water	\$15.00	\$15.00
1	LEAD - ICP [10 day]	Water	\$15.00	\$15.00
1	MAGNESIUM - ICP [10 day]	Water	\$15.00	\$15.00
1	MANGANESE - ICP [10 day]	Water	\$15.00	\$15.00
1	MERCURY - CVAA [10 day]	Water	\$45.00	\$45.00
1	MOLYBDENUM - ICP [10 day]	Water	\$15.00	\$15.00
1	NICKEL - ICP [10 day]	Water	\$15.00	\$15.00
1	NITRATE NITROGEN [10 day]	Water	\$25.00	\$25.00
1	O & G, TOTAL (HEM) [10 day]	Water	\$45.00	\$45.00

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Koppers001543

**Invoice Number: 5403076****Invoice Date: 03/12/04**

Page 3 of 3

071

**Koppers Industries, Inc.**  
7540 NW St. Helens Road  
Portland, OR 97210-3663  
Attn: T.J. Turner

**PO Number**

NA

**Project**

NPDES Permit Renewal Tests

**Received**

02/26/04

**Work Order(s)**

4022616

**Client**

Koppers Industries, Inc.

**Project Number**

[none]

**Comments**

QUANTITY	ANALYSIS/DESCRIPTION	MATRIX	UNIT COST	EXTENDED COST
1	PH [10 day]	Water	\$15.00	\$15.00
1	PHENOLS, TOTAL [10 day]	Water	\$50.00	\$50.00
1	PHOSPHORUS, TOTAL [10 day]	Water	\$35.00	\$35.00
1	RESIDUAL CHLORINE 1 [10 day]	Water	\$25.00	\$25.00
1	SELENIUM - ICP [10 day]	Water	\$15.00	\$15.00
1	SILVER - ICP [10 day]	Water	\$15.00	\$15.00
1	SULFATE, TURBID. [10 day]	Water	\$30.00	\$30.00
1	SULFIDE [10 day]	Water	\$30.00	\$30.00
1	SULFITE [10 day]	Water	\$30.00	\$30.00
1	SURFACTANTS (MBAS) [10 day]	Water	\$95.00	\$95.00
1	SUSPENDED SOLIDS [10 day]	Water	\$22.00	\$22.00
1	THALLIUM - ICP [10 day]	Water	\$15.00	\$15.00
1	TIN - ICP [10 day]	Water	\$15.00	\$15.00
1	TITANIUM - ICP [10 day]	Water	\$15.00	\$15.00
1	TKN [10 day]	Water	\$45.00	\$45.00
1	TOC [10 day]	Water	\$45.00	\$45.00
1	VOC 624 Extended [10 day]	Water	\$200.00	\$200.00
1	ZINC - ICP [10 day]	Water	\$15.00	\$15.00

**Invoice Total: \$1,747.00****COPY****COLUMBIA INSPECTION, INC** 7133 N. Lombard, Portland, OR 97203 Phone:(503) 286-9464 Fax:(503) 286-5355 E-mail:lab@ColumbiaInspection.com

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**Vendor Name** Columbia Inspection

[illegible]



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U.S Customs Approved Gaugers  
Petroleum and Environmental Laboratory  
Tank Calibrations

## INVOICE

**Invoice Number:** 5402081

**Invoice Date:** 02/18/04

Page 1 of 1

071

**Koppers Industries, Inc.**  
7540 NW St. Helens Road  
Portland, OR 97210-3663  
Attn: T.J. Turner

**PO Number**

NA

**Project**

Stormwater Tests

**Received**

02/16/04

**Work Order(s)**

4021607

**Client**

Koppers Industries, Inc.

**Project Number**

[none]

**Comments**

QUANTITY	ANALYSIS/DESCRIPTION	MATRIX	UNIT COST	EXTENDED COST
1	O & G, TOTAL (HEM) [1 day]	Water	\$45.00	\$45.00

**Invoice Total: \$45.00**

FEB 25 2004

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Koppers001546



# CERTIFICATE OF ANALYSIS

CLIENT: Koppers Industries, Inc.  
7540 NW St. Helens Road  
Portland OR, 97210-3663  
ATTN: T.J. Turner

PROJECT NAME: Stormwater Tests

PHONE: (503) 286-3681  
FAX: (503) 285-2831

SUBMITTED: 02/16/04 10:54

REPORT DATE: 02/17/04 11:26

REPORT NUMBER: 4021607

PAGE: 1 OF 1

CI SAMPLE	CLIENTS ID#	DATE	TIME	MATRIX
4021607-01	Stormwater Tanks	02/16/2004	0945	Water

SAMPLE/ ANALYSIS	METHOD	PARAMETER	RESULTS	UNITS	DETECTION LIMIT	TECH	DATE/TIME
4021607-01	SAMPLE ID: Stormwater Tanks						
General Bench Analysis							
O & G, TOTAL (HEM) EPA 1664		TOTAL OIL AND GREASE	3.5	mg/L	2.0	AKH	02/17/2004 08:42

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Koppers001547



**Vendor Name** Columbia Inspection

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Tank Calibrations

**INVOICE**

**Invoice Number:** 5402034

**Invoice Date:** 02/10/04

Page 1 of 1

071

**Koppers Industries, Inc.**

7540 NW St. Helens Road

Portland, OR 97210-3663

Attn: T.J. Turner

**PO Number**

NA

**Project**

Stormwater Tanks

**Received**

02/04/04

**Work Order(s)**

4020407

**Client**

Koppers Industries, Inc.

**Project Number**

[none]

**Comments**

QUANTITY	ANALYSIS/DESCRIPTION	MATRIX	UNIT COST	EXTENDED COST
1	O & G, TOTAL (HEM) [1 day]	Water	\$45.00	\$45.00
1	PHENOLS, TOTAL [1 day]	Water	\$40.00	\$40.00

**Invoice Total: \$85.00**

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Koppers001549



# CERTIFICATE OF ANALYSIS

CLIENT: Koppers Industries, Inc.  
7540 NW St. Helens Road  
Portland OR, 97210-3663  
ATTN: T.J. Turner

PROJECT NAME: Stormwater Tanks

PHONE: (503) 286-3681  
FAX: (503) 285-2831

SUBMITTED: 02/04/04 14:24

REPORT DATE: 02/09/04 15:06

REPORT NUMBER: 4020407

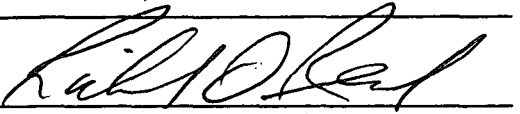
PAGE: 1 OF 1

CI SAMPLE	CLIENTS ID#	DATE	TIME	MATRIX			
4020407-01	Stormwater	02/04/2004	1345	Water			
SAMPLE/ ANALYSIS	METHOD	PARAMETER	RESULTS	UNITS	DETECTION LIMIT	TECH	DATE/TIME
4020407-01	SAMPLE ID: Stormwater						
General Bench Analysis							
O & G, TOTAL (HEM)	EPA 1664	TOTAL OIL AND GREASE	2.0	mg/L	2.0	AKH	02/05/2004 12:31
PHENOLS, TOTAL	EPA 420.1	TOTAL RECOVERABLE PHENOLICS	0.11	mg/L	0.050	AKH	02/05/2004 14:02

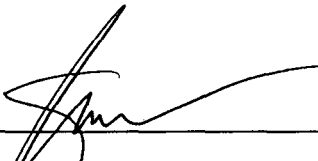
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G/L	Detail	Subdetail	Location	Department	Tax	Emp No.	Move No./ PO No.	Amount	Inv No.	Date
305	807		9270	925	0362			\$45	5401122	1/27/2004
									Vendor Number	
									014327008	
									Net 30 days	
<div>Authorization</div> 				Gross Amount				\$45.00	Terms	Due
				Discount					Code	Date
				Net				\$45.00	055	2/27/2004
								Division	Month	Audit No.
								483	2	92704020003



# COLUMBIA INSPECTION, INC.

U.S Customs Approved Gaugers  
Petroleum and Environmental Laboratory  
Tank Calibrations

**INVOICE**

**Invoice Number:** 5401122

**Invoice Date:** 01/27/04

Page 1 of 1

071

**Koppers Industries, Inc.**  
7540 NW St. Helens Road  
Portland, OR 97210-3663  
Attn: T.J. Turner

**PO Number**

NA

**Project**

Stormwater Tests

**Received**

01/22/04

**Work Order(s)**

4012209

**Client**

Koppers Industries, Inc.

**Project Number**

[none]

**Comments**

QUANTITY	ANALYSIS/DESCRIPTION	MATRIX	UNIT COST	EXTENDED COST
1	O & G, TOTAL (HEM) [1 day]	Water	\$45.00	\$45.00

**Invoice Total: \$45.00**

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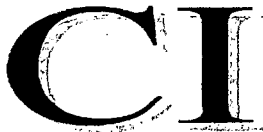
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Koppers001552



# CERTIFICATE OF ANALYSIS

CLIENT: Koppers Industries, Inc.  
7540 NW St. Helens Road  
Portland OR, 97210-3663  
ATTN: Amos Kamerer

PROJECT NAME: Stormwater Tests

PHONE: (503) 286-3681  
FAX: (503) 285-2831

SUBMITTED: 01/22/04 11:25

REPORT DATE: 01/27/04 11:15

REPORT NUMBER: 4012209

PAGE: 1 OF 1

CI SAMPLE	CLIENTS ID#	DATE	TIME	MATRIX			
4012209-01	Stormwater Tank	01/22/2004	1000	Water			
SAMPLE/ ANALYSIS	METHOD	PARAMETER	RESULTS	UNITS	DETECTION LIMIT	TECH	DATE/TIME
4012209-01	SAMPLE ID: Stormwater Tank						
General Bench Analysis							
O & G, TOTAL (HEM) EPA 1664		TOTAL OIL AND GREASE	ND	mg/L	2.0	AKH	01/26/2004 07:59

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[illegible]



# COLUMBIA INSPECTION, INC.

U.S Customs Approved Gaugers  
Petroleum and Environmental Laboratory  
Tank Calibrations

**INVOICE**

**Invoice Number:** 5401138

**Invoice Date:** 01/28/04

Page 1 of 1

071

**Koppers Industries, Inc.**

7540 NW St. Helens Road

Portland, OR 97210-3663

Attn: T.J. Turner

**PO Number**

NA

**Project**

Stormwater Tests

**Received**

01/27/04

**Work Order(s)**

4012710

**Client**

Koppers Industries, Inc.

**Project Number**

[none]

**Comments**

ORIGINAL

QUANTITY	ANALYSIS/DESCRIPTION	MATRIX	UNIT COST	EXTENDED COST
1	O & G, TOTAL (HEM) [1 day]	Water	\$45.00	\$45.00
			<b>Invoice Total:</b>	<b>\$45.00</b>

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Koppers001555





# CERTIFICATE OF ANALYSIS

CLIENT: Koppers Industries, Inc.  
7540 NW St. Helens Road  
Portland OR, 97210-3663

PROJECT NAME: Stormwater Tests

ATTN: T.J. Turner

ORIGINAL

FEB 4 2004

PHONE: (503) 286-3681  
FAX: (503) 285-2831

SUBMITTED: 01/27/04 14:59

REPORT DATE: 01/28/04 12:19

REPORT NUMBER: 4012710


PAGE: 1 OF 1

CI SAMPLE	CLIENTS ID#	DATE	TIME	MATRIX
4012710-01	Stormwater Tank	01/27/2004	1300	Water

SAMPLE/ ANALYSIS	METHOD	PARAMETER	RESULTS	UNITS	DETECTION LIMIT	TECH	DATE/TIME
4012710-01	SAMPLE ID: Stormwater Tank						
General Bench Analysis							
O & G, TOTAL (HEM) EPA 1664		TOTAL OIL AND GREASE	ND	mg/L	2.0	DR	01/28/2004 12:18

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Authorized for Release By:

  
Richard D. Reid - Laboratory Director

**Vendor Name**

## Columbia Inspection

[illegible]



# COLUMBIA INSPECTION, INC.

U.S Customs Approved Gaugers  
Petroleum and Environmental Laboratory  
Tank Calibrations

**INVOICE**

**Invoice Number:** 5401067

**Invoice Date:** 01/16/04

Page 1 of 1

071

**Koppers Industries, Inc.**  
7540 NW St. Helens Road  
Portland, OR 97210-3663  
Attn: T.J. Turner

**PO Number**

NA

**Project**

Quarterly Stormwater Test

**Received**

01/14/04

**Work Order(s)**

4011404

**Client**

Koppers Industries, Inc.

**Project Number**

quarterly stormwater

**Comments**

QUANTITY	ANALYSIS/DESCRIPTION	MATRIX	UNIT COST	EXTENDED COST
1	O & G, TOTAL (HEM) [2 day]	Water	\$55.00	\$55.00
1	PHENOLS, TOTAL [2 day]	Water	\$82.50	\$82.50
1	PNAH 625 [2 day]	Water	\$262.50	\$262.50

**Invoice Total: \$400.00**

**JAN 27 2004**

ORIGINAL

COLUMBIA INSPECTION, INC 7133 N. Lombard, Portland, OR 97203 Phone:(503) 286-9464 Fax:(503) 286-5355 E-mail:lab@ColumbiaInspection.com

All work performed is subject to the terms and conditions of our current schedule of rates. Liability is limited to the amount of this invoice.

**Terms - Net 15 Days**

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Please state invoice number and remit to:

**Columbia Inspection, Inc.**  
PO Box 83569, St. Johns Station  
Portland, OR 97283

Koppers001558



# CERTIFICATE OF ANALYSIS

CLIENT: Koppers Industries, Inc.  
7540 NW St. Helens Road  
Portland OR, 97210-3663  
ATTN: Amos Kamerer

PROJECT NAME: Quarterly Stormwater Test  
PROJECT NUMBER: quarterly stormwater

PHONE: (503) 286-3681  
FAX: (503) 285-2831

SUBMITTED: 01/14/04 11:46

REPORT DATE: 01/16/04 15:06

REPORT NUMBER: 4011404

PAGE: 1 OF 1

CI SAMPLE	CLIENTS ID#	DATE	TIME	MATRIX
4011404-01	Stormwater Tanks	01/14/2004	0000	Water

SAMPLE/ ANALYSIS	METHOD	PARAMETER	RESULTS	UNITS	DETECTION LIMIT	TECH	DATE/TIME
<b>4011404-01 SAMPLE ID: Stormwater Tanks</b>							
General Bench Analysis							
O & G, TOTAL (HEM)	EPA 1664	TOTAL OIL AND GREASE	ND	mg/L	2.0	PA	01/14/2004 16:34
PHENOLS, TOTAL	EPA 420.1	TOTAL RECOVERABLE PHENOLICS	0.14	mg/L	0.050	AKH	01/16/2004 15:13

## Semi-Volatile Organics by Gas Chromatography/Mass Spectroscopy

PNAH 625	EPA 625 (SIM)	ACENAPHTHENE	12.9	ug/L	0.05	DM	01/16/2004 09:09
		ACENAPHTHYLENE	2.4	ug/L	0.05		
		ANTHRACENE	2.3	ug/L	0.05		
		BENZO(a)ANTHRACENE	2.5	ug/L	0.05		
		BENZO(a)PYRENE	4.4	ug/L	0.05		
		BENZO(b)FLUORANTHENE	4.3	ug/L	0.05		
		BENZO(g,h,i)PERYLENE	2.6	ug/L	0.05		
		BENZO(k)FLUORANTHENE	4.4	ug/L	0.05		
		CHRYSENE	4.7	ug/L	0.05		
		DIBENZO(a,h)ANTHRACENE	0.8	ug/L	0.05		
		FLUORANTHENE	9.1	ug/L	0.05		
		FLUORENE	4.0	ug/L	0.05		
		INDENO(1,2,3-cd)PYRENE	2.8	ug/L	0.05		
		NAPHTHALENE	ND	ug/L	0.05		
		PHENANTHRENE	2.4	ug/L	0.05		
		PYRENE	7.2	ug/L	0.05		
		Surrogate: 2-Fluorobiphenyl	92.8 %	%RECOVERY	50-150		
		Surrogate: Nitrobenzene-D5	120 %	%RECOVERY	50-150		
		Surrogate: p-terphenyl-D14	56.5 %	%RECOVERY	50-150		

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Richard D. Reid - Laboratory Director

**Vendor Name** Columbia Inspection

[illegible]



# COLUMBIA INSPECTION, INC.

U.S Customs Approved Gaugers  
Petroleum and Environmental Laboratory  
Tank Calibrations

**INVOICE**

**Invoice Number:** 5312196

**Invoice Date:** 12/31/03

Page 1 of 1

071

**Koppers Industries, Inc.**  
7540 NW St. Helens Road  
Portland, OR 97210-3663  
Attn: Amos Kamerer

**PO Number**

NA

**Project**

Stormwater Tanks

**Received**

12/29/03

**Work Order(s)**

3122907

**Client**

Koppers Industries, Inc.

**Project Number**

[none]

**Comments**

QUANTITY	ANALYSIS/DESCRIPTION	MATRIX	UNIT COST	EXTENDED COST
1	O & G, TOTAL (HEM) [1 day]	Water	\$45.00	\$45.00

**Invoice Total: \$45.00**

ORIGINAL

RECEIVED

JAN 5 2004

KOPPERS INDS, INC  
PORTLAND OR

COLUMBIA INSPECTION, INC 7133 N. Lombard, Portland, OR 97203 Phone:(503) 286-9464 Fax:(503) 286-5355 E-mail:lab@ColumbiaInspection.com

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**Columbia Inspection, Inc.**  
PO Box 83569, St. Johns Station  
Portland, OR 97283

Koppers001561



# CERTIFICATE OF ANALYSIS

CLIENT: Koppers Industries, Inc.  
7540 NW St. Helens Road  
Portland OR, 97210-3663  
ATTN: Amos Kameron

PROJECT NAME: Stormwater Tanks

PHONE: (503) 286-3681  
FAX: (503) 285-2831

SUBMITTED: 12/29/03 12:05

REPORT DATE: 12/31/03 10:18

REPORT NUMBER: 3122907

PAGE: 1 OF 1

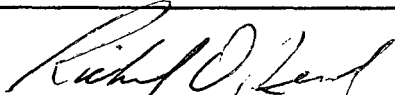
CI SAMPLE	CLIENTS ID#	DATE	TIME	MATRIX
3122907-01	Stormwater	12/29/2003	1000	Water

SAMPLE/ ANALYSIS	METHOD	PARAMETER	RESULTS	UNITS	DETECTION LIMIT	TECH	DATE/TIME
3122907-01	SAMPLE ID: Stormwater						
General Bench Analysis							
O & G, TOTAL (HEM) EPA 1664		TOTAL OIL AND GREASE	3.3	mg/L	2.0	DM	12/29/2003 17:03

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Richard D. Reid - Laboratory Director

COLUMBIA INSPECTION, INC 7133 N. Lombard, Portland, OR 97203 Phone: (503) 286-9464 Fax: (503) 286-5355 E-mail: lab@ColumbiaInspection.com

Koppers001562

*FAX: Steve Smith*

*cc: BLA*

*TIS*

*JEM*

KOPPERS INDUSTRIES, INC.  
PORTLAND TERMINAL  
TANK LIST

<u>Tank ID#</u>	<u>Installation Date</u>	<u>Nominal Capacity (gals)</u>	<u>Contents(future contents)</u>
T-01	1952	650,000	Storm Water
T-02	1942	1,000,000	Storm Water
T-03	1942	100,000	Storm Water
T-04	1942	100,000	Storm Water
T-11	1942	225,000	Storm Water
T-12	1942	56,000	Storm Water
T-17	1942	20,000	Storm Water
T-18	1942 —	20,000	Storm Water
T-19	1942 —	20,000	Storm Water
T-20	1942 —	300,000	Storm Water
T-23	1942 —	20,000	Storm Water
T-33	1942 —	45,000	Heavy Oil
T-34	1942 —	45,000	Storm Water
T-39	1942	20,000	Storm Water
T-53	1947 —	16,000	Storm Water
T-65	1947	750,000	Liquid Pitch
T-66	1947	100,000	Storm Water
T-67	1947	90,000	Heavy Oil
T-68	1947	245,000	Liquid Pitch
T-74	1947 —	10,000	Storm Water
T-99	1951	200,000	Storm Water
T-101	1979	759,000	Storm Water
T-102	1975 ~	9,282	Heavy Oil
T-V207	1947 —	15,000	Storm Water
T-SW-1	1947 —	45,000	Storm Water
T-SW-2	1947 —	45,000	Storm Water
T-SW-3	1947 —	45,000	Storm Water
T-SW-4	1947 ~	45,000	Storm Water
T-SW-5	1947 —	20,000	Storm Water
T-SW-6	1947 =	20,000	Storm Water



POR-T-20	1920	X	300000	Distillate
POR-T-11	1942	X	225000	Creosote
POR-T-4	1942	X	100000	Distillate
POR-T-01	1952	X	650000	Crude Tar
POR-T-02	1942	X	1000000	Crude Tar
POR-T-03	1942	X	100000	Methyl Napthanate
POR-T-17	1942	X	20000	Distillate
POR-T-86	1947	X	100000	Creosote
POR-T-19	1920	X	20000	Distillate
POR-T-39	1942	X	20000	Creosote
POR-T-12	1942	X	58000	Unknown
POR-T-102	1920		9282	Creosote -
POR-T-99	1951	X	200000	Distillate
POR-T-101	1952	X	759000	Distillate
POR-T-23	1920	X	20000	Distillate
POR-T-33	1920		45000	Distillate -
POR-T-34	1942	X	45000	Distillate
POR-T-53	1920	X	18000	Creosote
POR-T-85	1947		750000	Liquid Pitch
POR-T-87	1947		90000	Creosote -
POR-T-74	1920	X	10000	Creosote
POR-T-V207	1920	X	15000	Pitch
POR-T-SW-1	1920		45000	Storm Water
POR-T-SW-2	1920		45000	Storm Water
POR-T-SW-3	1920		45000	Storm Water
POR-T-SW-4	1920		45000	Storm Water
POR-T-SW-5	1920		20000	Storm Water
POR-T-SW-6	1920		20000	Storm Water
POR-T-68	1947		245000	Liquid Pitch
POR-T-18	1920	X	20000	Distillate

will CHANGE TO HEAVY oil

HEAVY oil

- MELTER.  
will CHANGE TO HEAVY oil

- SHIPPING TANK

X = TANKS NOT IN USE, STORM WATER SURG TANKS.

FAX: T. Self

12/21/98

Are

Portland Terminal  
Tank Summary

Tank ID	Year	Capacity (Gals)	Contents (Full or Empty)	Water Pressure	Relief Valve
POR-T-20	1920	300,000	Storm Water		
POR-T-11	1942	225,000	Storm Water		
POR-T-4	1942	100,000	Storm Water		
POR-T-01	1952	650,000	Storm Water		
POR-T-02	1942	1,000,000	Storm Water		
POR-T-03	1942	100,000	Storm Water		
POR-T-17	1942	20,000	Storm Water		
POR-T-86	1947	100,000	Storm Water		
POR-T-19	1920	20,000	Storm Water		
POR-T-39	1942	20,000	Storm Water		
POR-T-12	1942	58,000	Storm Water		
POR-T-102	1920	9,282	Creosote/(Heavy Oil)	0.0386	0.0302
POR-T-99	1951	200,000	Storm Water		
POR-T-101	1952	759,000	Storm Water		
POR-T-23	1920	20,000	Storm Water		
POR-T-33	1920	45,000	Heavy Oil	0.0302	0.0302
POR-T-34	1942	45,000	Storm Water		
POR-T-53	1920	16,000	Storm Water		
POR-T-65	1947	750,000	Melter/(Liquid Pitch)	0.0077	0.0077
POR-T-67	1947	90,000	Creosote/(Heavy Oil)	0.0386	0.0302
POR-T-74	1920	10,000	Storm Water		
POR-T-V207	1920	15,000	Storm Water		
POR-T-SW-1	1920	45,000	Storm Water		
POR-T-SW-2	1920	45,000	Storm Water		
POR-T-SW-3	1920	45,000	Storm Water		
POR-T-SW-4	1920	45,000	Storm Water		
POR-T-SW-5	1920	20,000	Storm Water		
POR-T-SW-6	1920	20,000	Storm Water		
POR-T-68	1947	245,000	Liquid Pitch	0.0185	0.0185
POR-T-18	1920	20,000	Storm Water		
POR-T-200	1999	2,000,000	Empty/(Liquid Pitch)		0.0121
POR-T-210	2000	2,000,000	Empty/(Liquid Pitch)		0.0121

Post-It® Fax Note	7671	Date	1/14/00	# of pages	1
To	TRACI SELF				
Co./Dept.	FOR CONVERSATION REGARDING				
Phone #	the SPEC plan				
Fax #					



**Shaw Environmental, Inc.**

10300 SW Nimbus Avenue  
Portland, OR 97223-4345  
503.603.1075  
Fax 503.603.1001

## **PRELIMINARY OPERATION PLAN KOPPERS 750 GPM SYSTEM**

This treatment system is designed to automatically initiate treatment during rain events and shut down at their conclusion. It is designed with a 20% contingency factor based on the estimated 600 gpm required for heavy rain events and provides for emergency storage of water should the rain event be extraordinary or the process not be working to it's design capacity due to mechanical problems. The Process Instrumentation Diagram (Drawing 2) shows the operation methodology.

The existing system will be used with the following minor modifications:

- Storage Tank T-6 will be instrumented and isolated from the other 5 storage tanks by valves
- New higher capacity VFD pumps will be installed to provide level control at T-6

### **PROPOSED OPERATION**

When a rain event starts, flow will be directed as it is now through the existing in ground oil water separator to storage tank T-6 which is equipped with a continuous output level indicator controller and two level switches. When the level in T-6 rises above the set point, the VFD pump starts and operates at a rate necessary to control the level in the tank. Should the level in the tank rise above the set point and reach the high level switch in the tank, an automatic valve will open and allow excess flow to go to the storage tank system. When the level in the tank falls to the low level switch the valve will close. Any water sent to emergency storage will be treated separately after the rain event is over.

The untreated water then goes to a new state of the art coalescing plate oil water separator which will remove the light phase separable organic matter (oil basically) from the water and allow any solids to settle. The oil is collected in a waste tank for proper disposal. The water then flows by gravity into a surge tank equipped similar to T-6 with excess flow sent to the sump area which returns the water to the front of the process. Flow out of the tank is controlled by the level indicator controller in the tank operating the VFD pump which feeds the lead/lag liquid phase granular activated carbon system through a 10 micron filter to remove any small solid which could act to plug the carbon columns. The carbon system will remove by adsorption the remaining soluble organic materials left in the water after the oil water separator. The lead/lag configuration is meant to insure that no untreated water is discharged. When the capacity of the carbon is used up in the lead tank as determined by breakthrough of one of the regulated compounds sampled between

the columns during the rain event, the valving on the columns is changed making the lag column the lead column, the spent carbon is disposed of properly and new carbon is added and that column becomes the new lag column.

The treated water is sampled after the second column as per ODEQ requirements and the flow discharged is recorded from a non resettable flow meter after each rain event.

B. Swearingen

K-1801

Nov 17



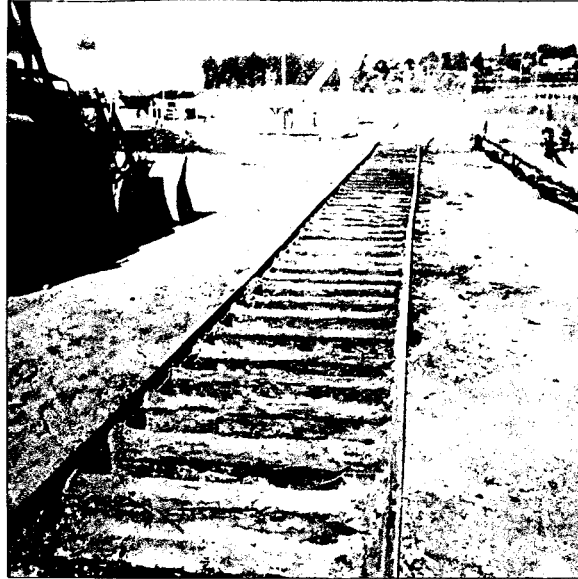


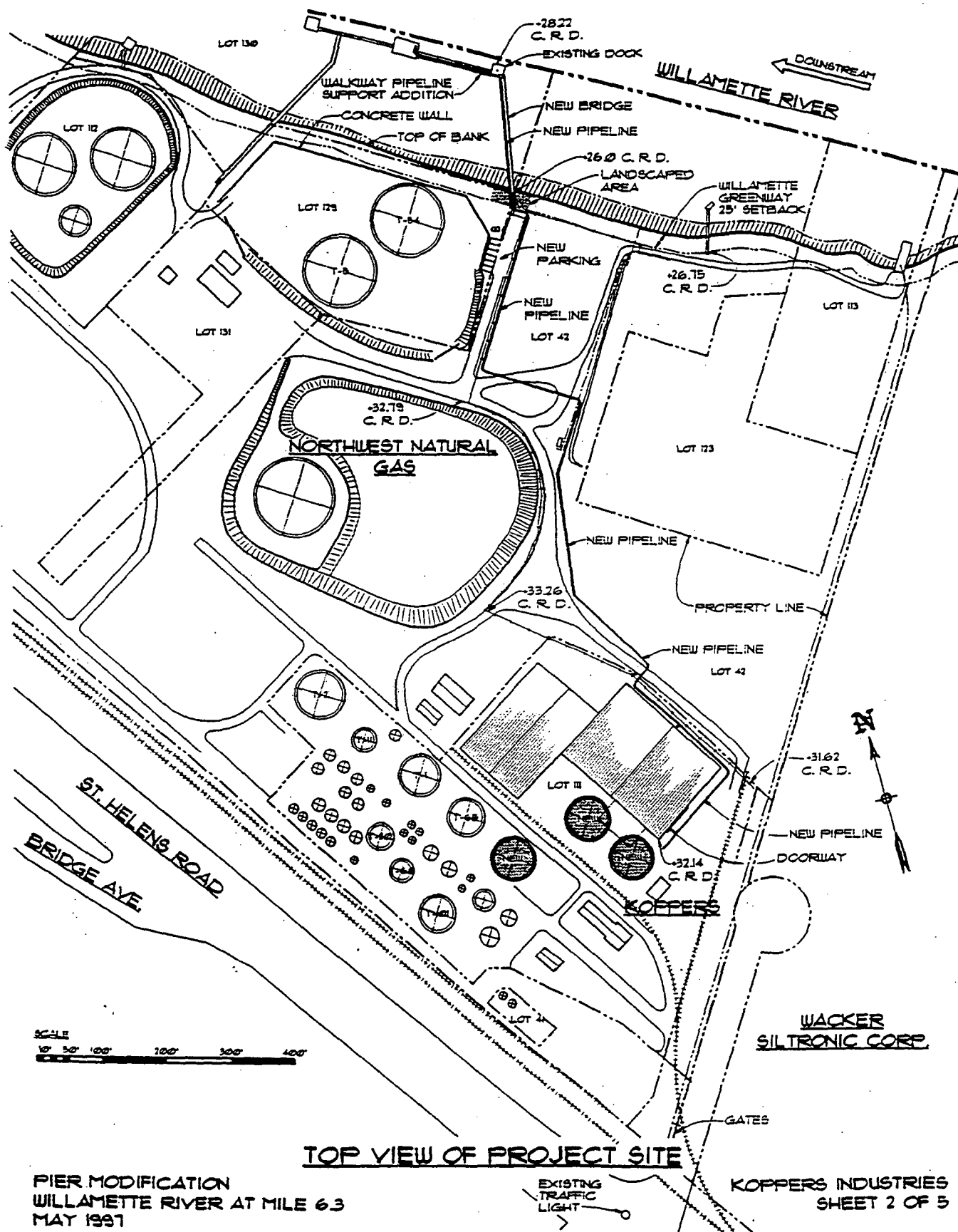


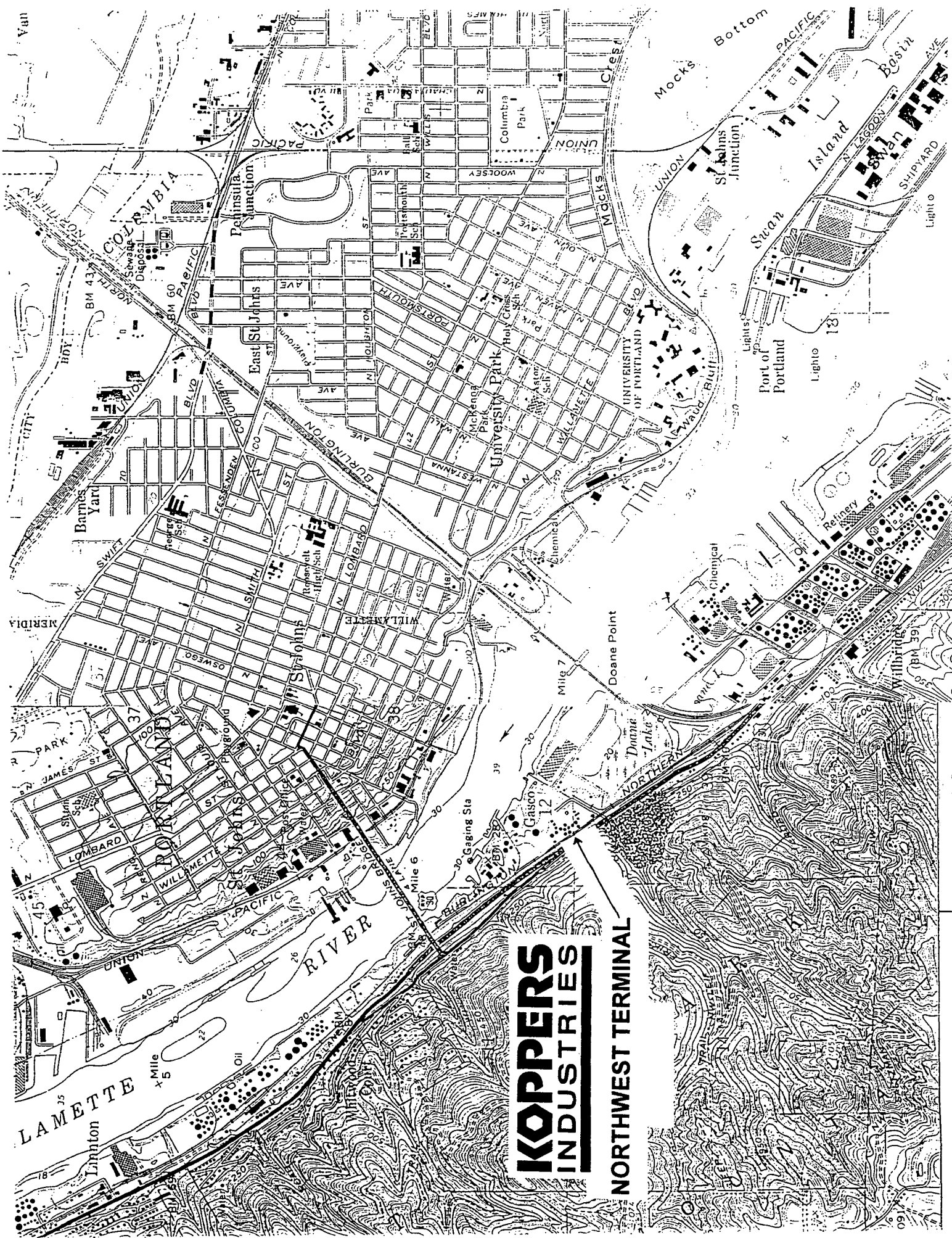












**KOPPERS**  
**INDUSTRIES**

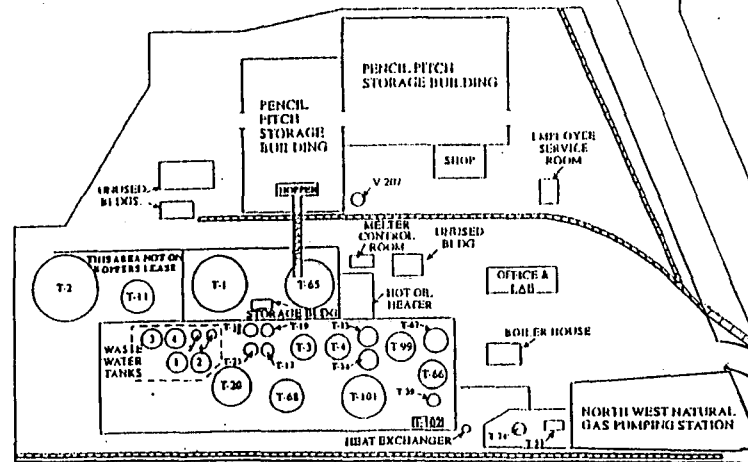
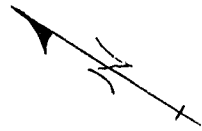
**NORTHWEST TERMINAL**

WILLAMETTE

RIVER

**KOPPERS  
INDUSTRIES**

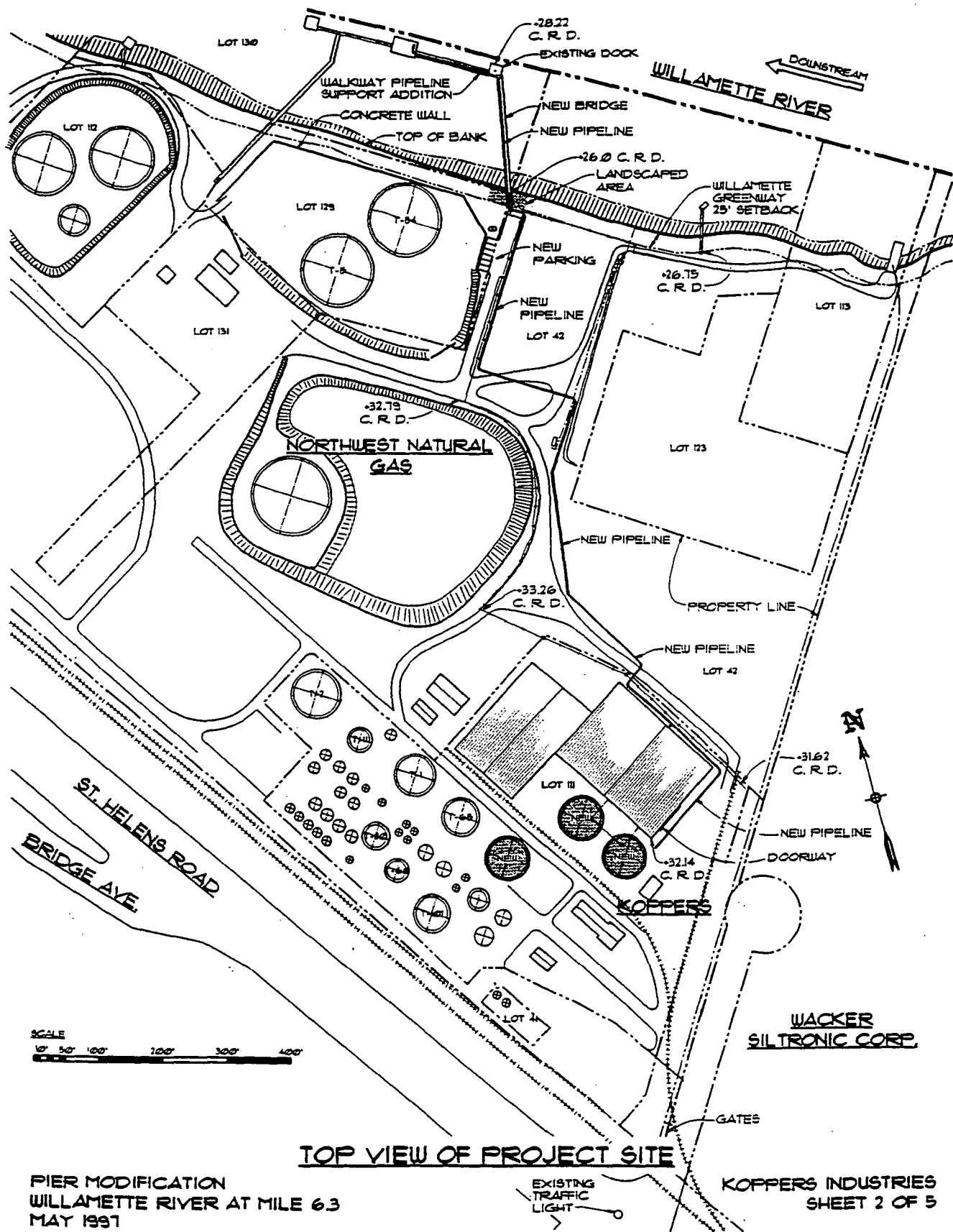
**NORTHWEST TERMINAL**



Wacker  
Siltronic

Hoffman  
Construction

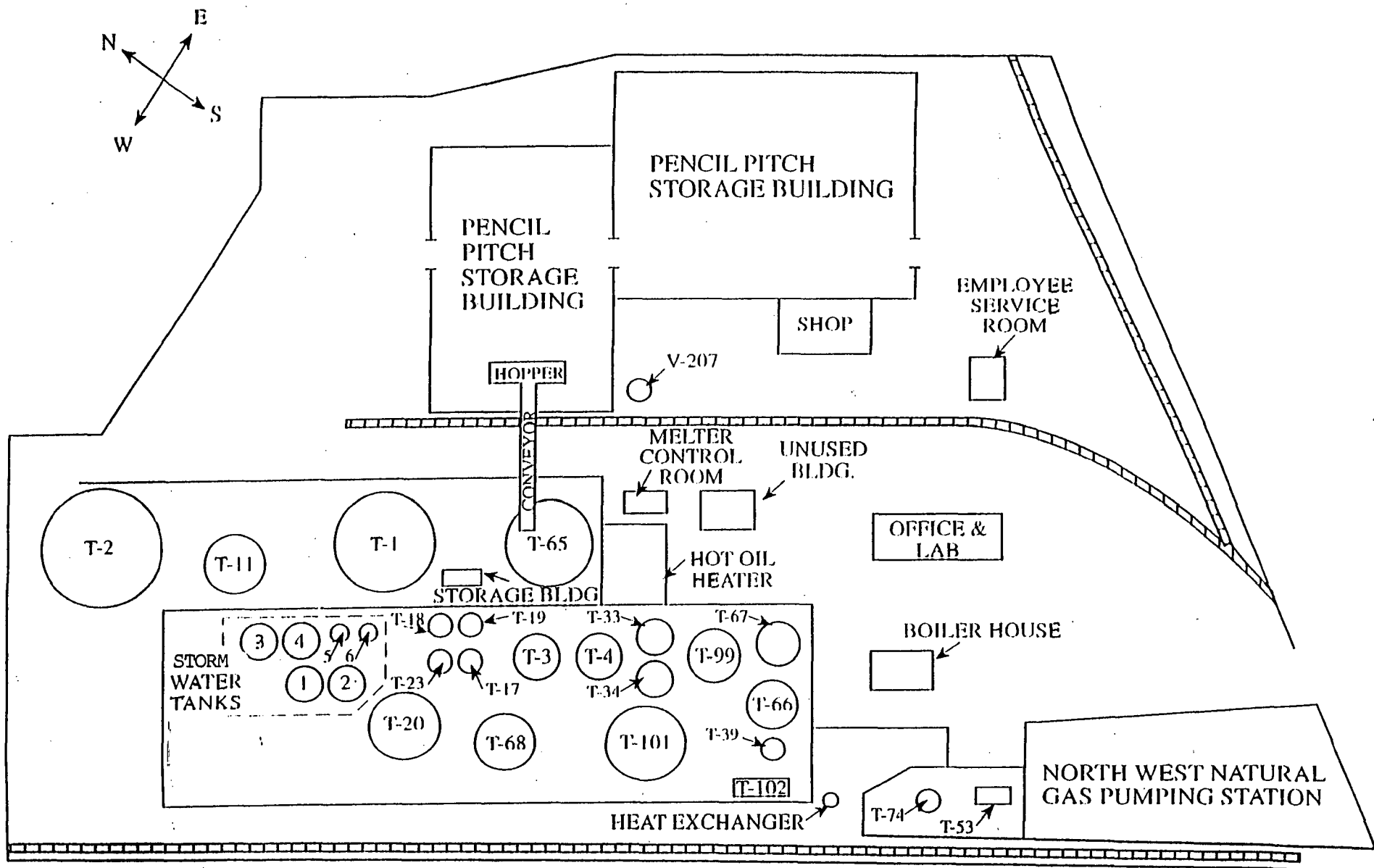
St. Helens Rd.



PIER MODIFICATION  
WILLAMETTE RIVER AT MILE 6.3  
MAY 1997

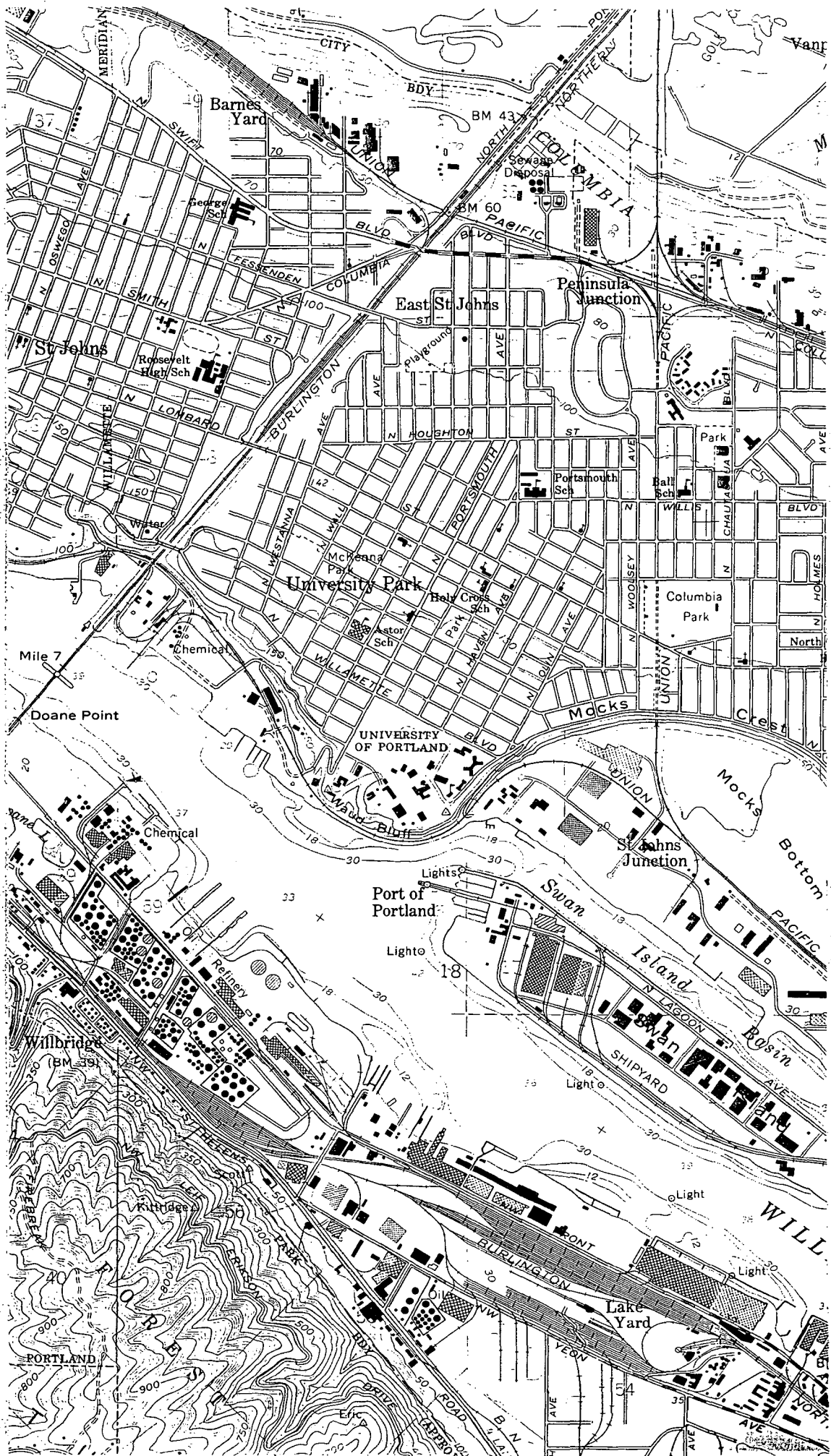
### TOP VIEW OF PROJECT SITE

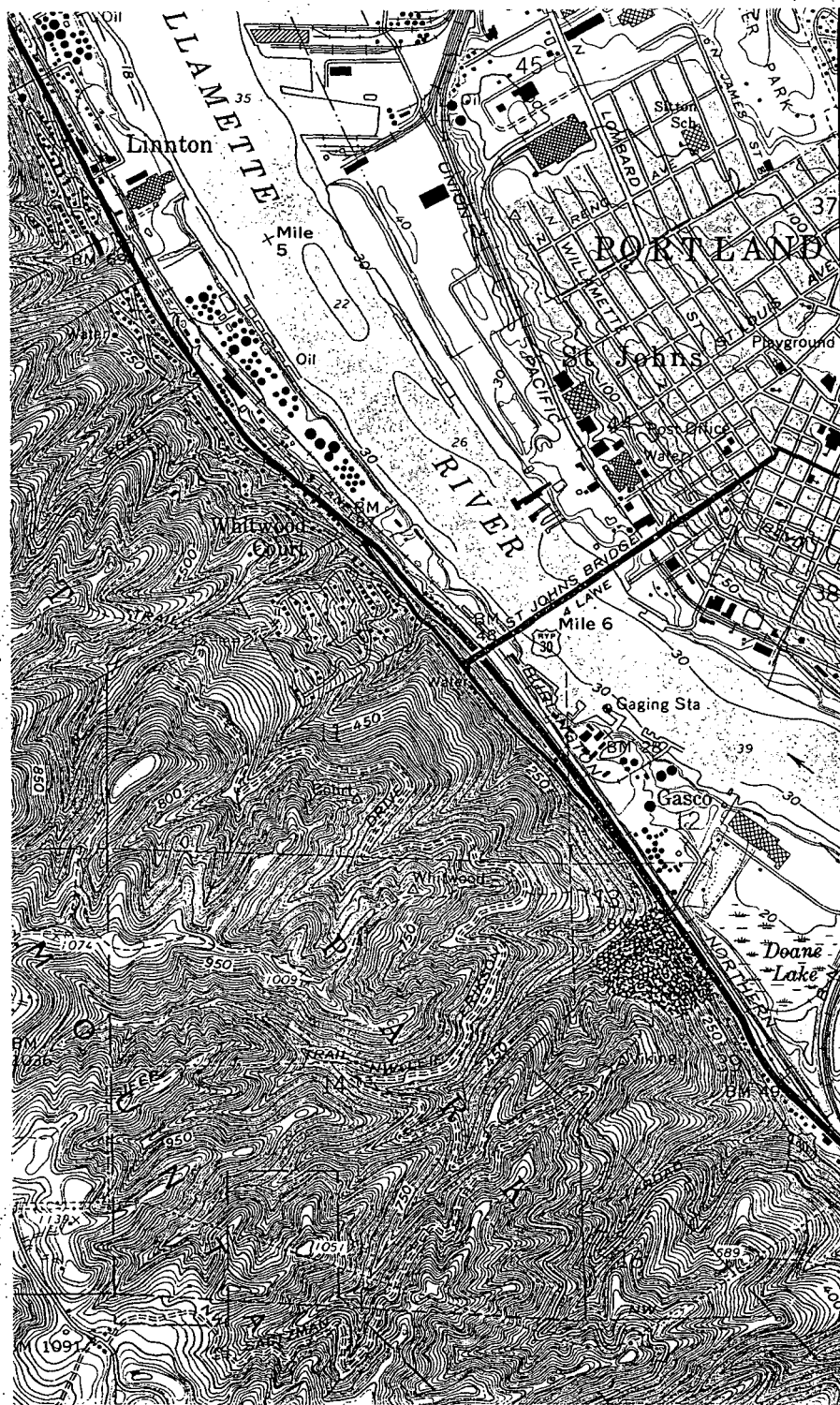
KOPPERS INDUSTRIES  
SHEET 2 OF 5



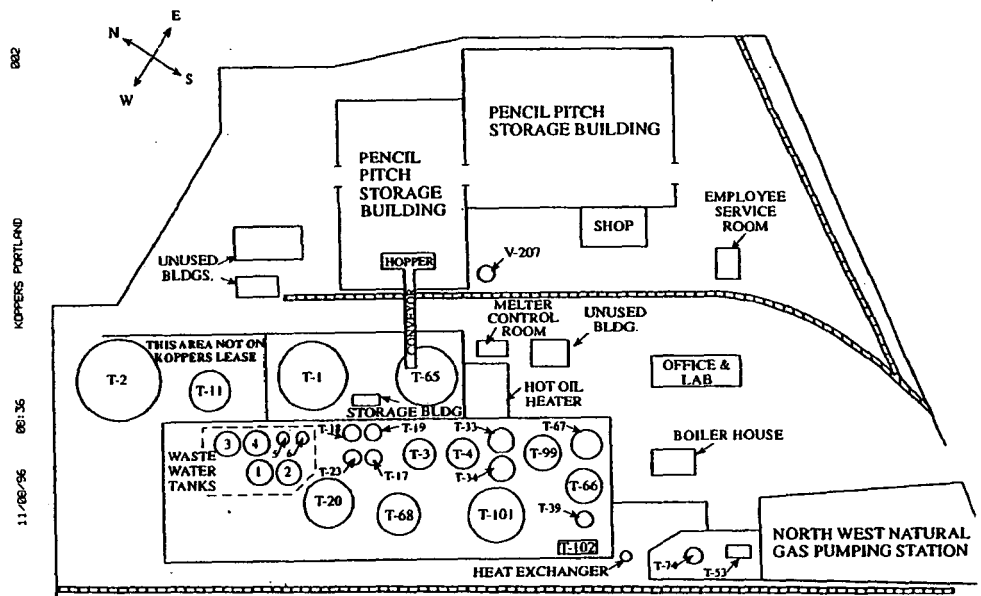
**PROPERTY SITE PLAN**

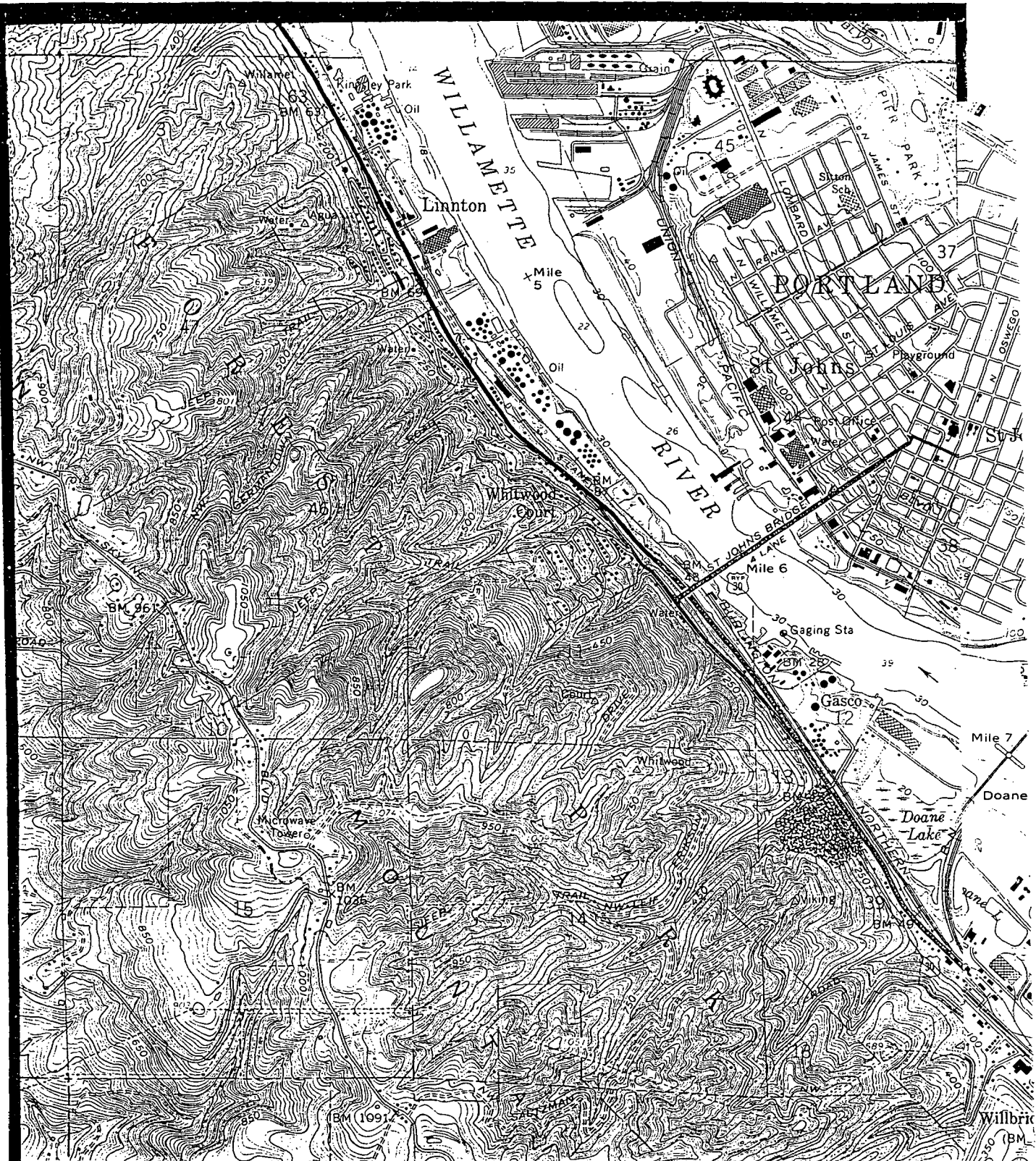






<p><b>NORTHWEST TERMINAL</b></p> <p><b>LATITUDE: 045D 34M 38S</b></p> <p><b>LONGITUDE: 122D 45M 32S</b></p>	<p><b>USGS MAP</b></p> <p><b>LINNTON</b></p> <p><b>QUADRANGLE</b></p> <p><b>OREGON</b></p> <p><b>SERIES 7.5 MIN</b></p>
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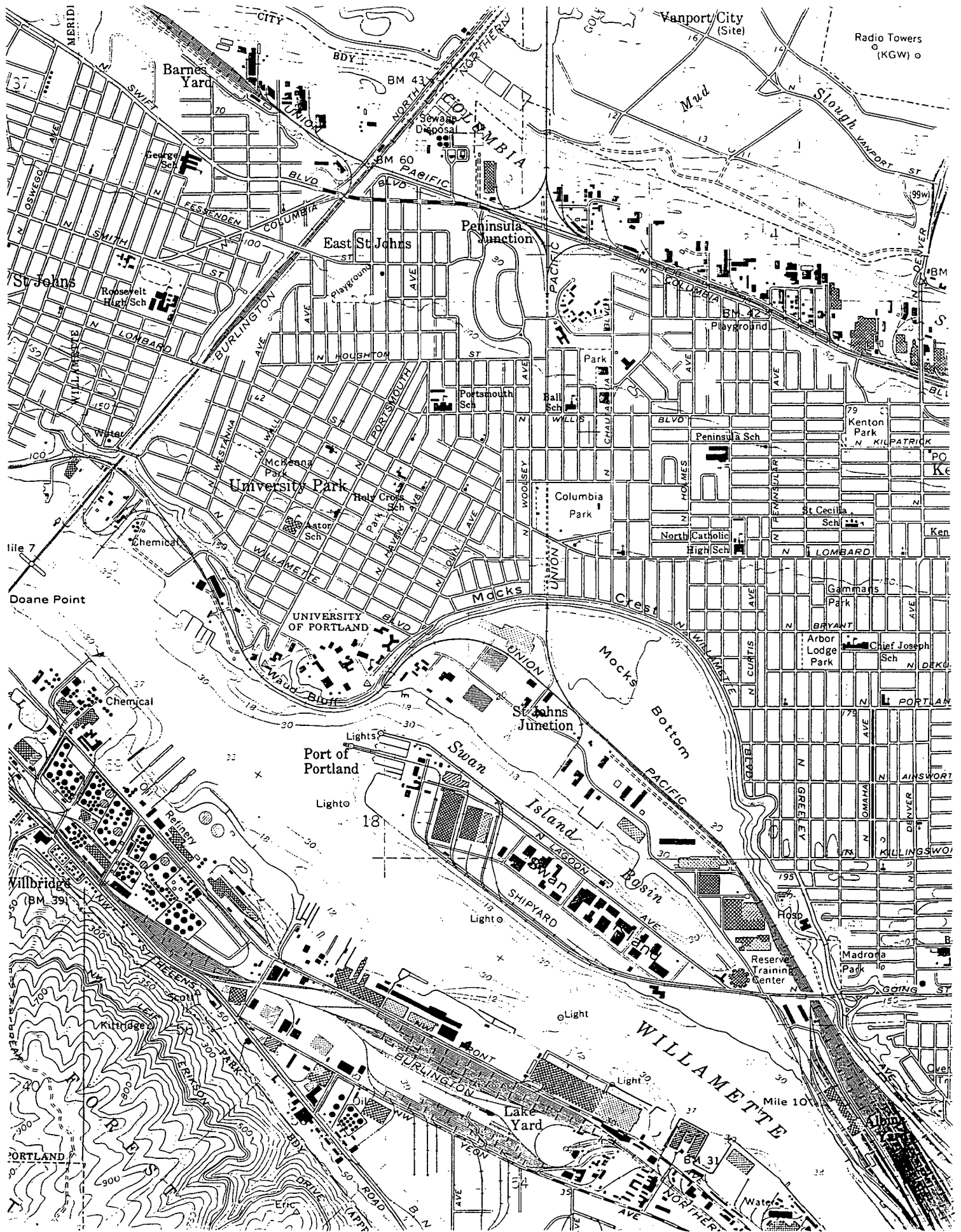
**KOPPERS  
INDUSTRIES**

PITTSBURGH, PA

**NORTHWEST TERMINAL**

LATITUDE: 045D 34M 38S  
LONGITUDE: 122D 45M 32S

**USGS MAP  
LINNTON  
QUADRANGLE  
OREGON  
SERIES 7.5 MIN**



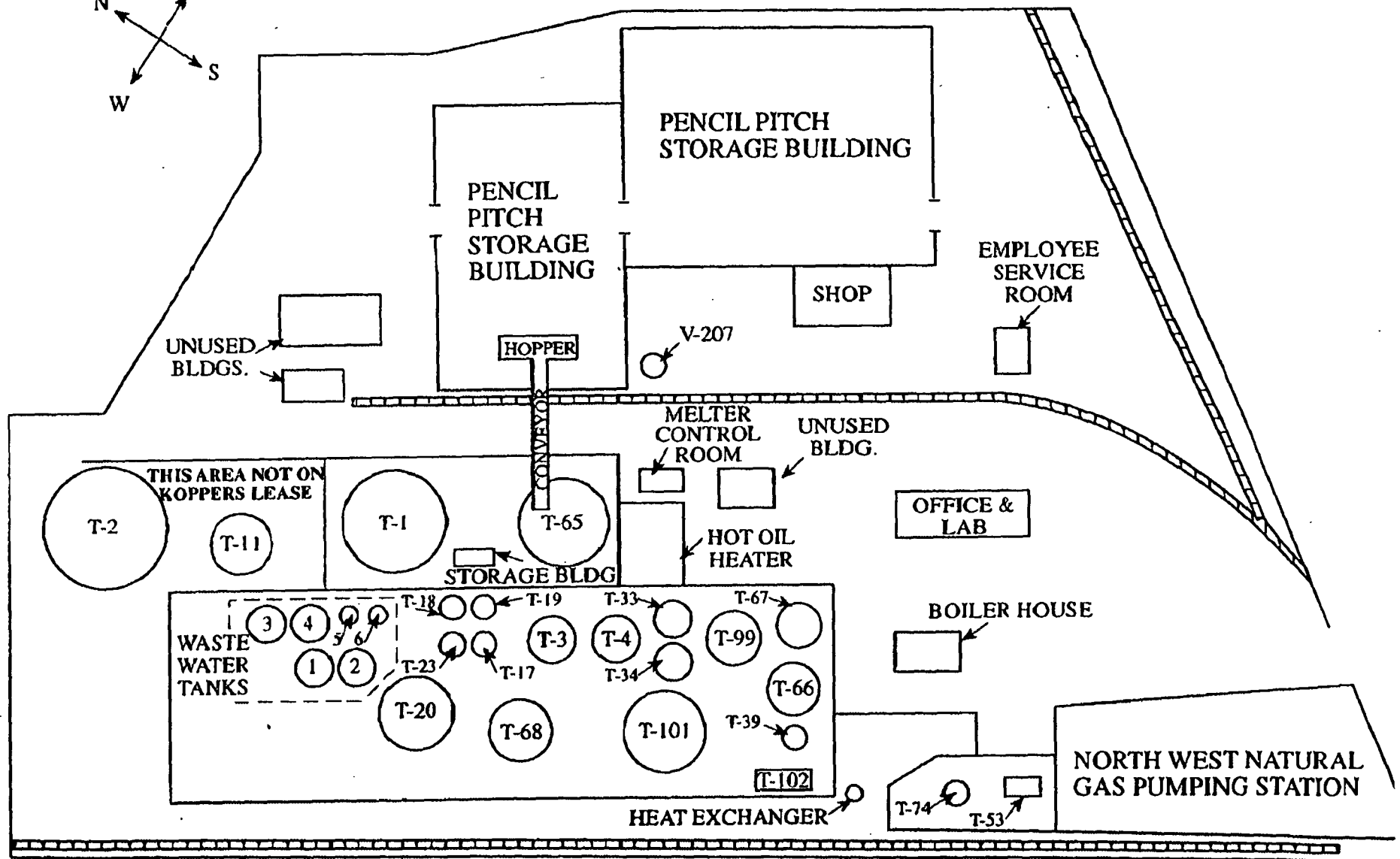
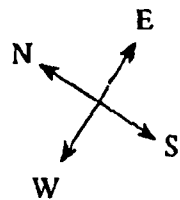


002

KOPPERS PORTLAND

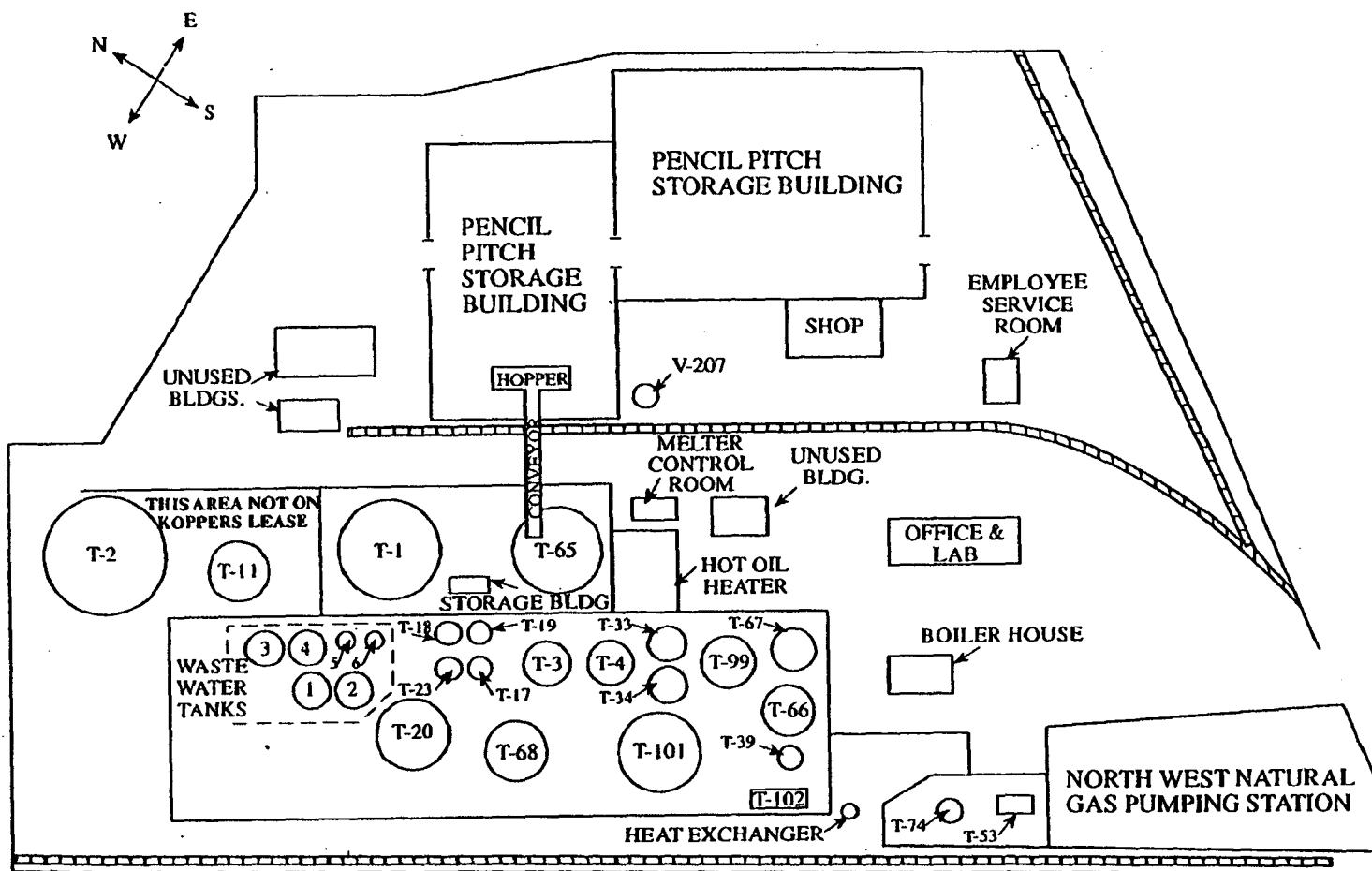
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11/08/96



PROPERTY SITE PLAN

Koppers001585



**PROPERTY SITE PLAN**

<sup>26</sup>  
RIVER

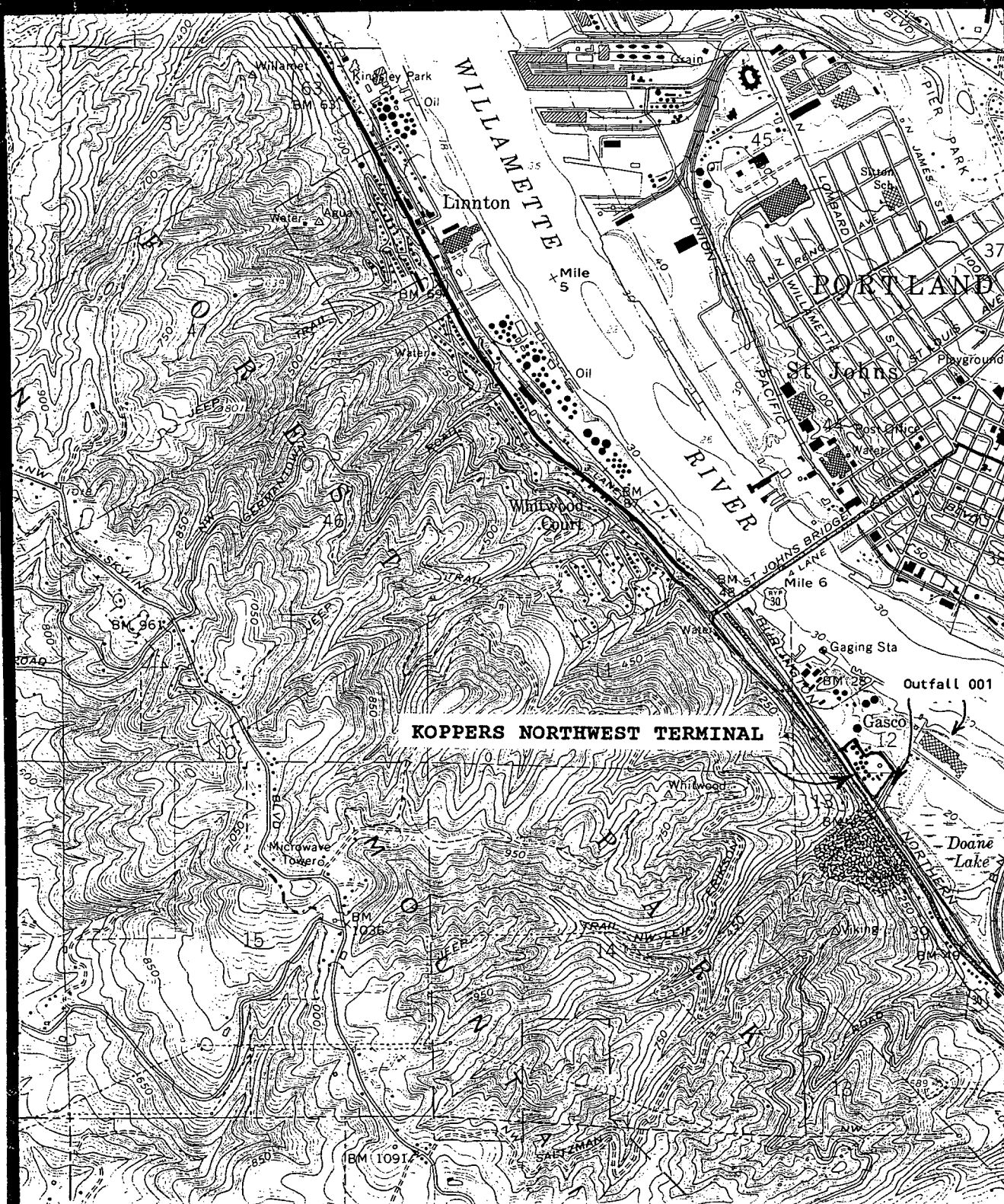
## NORTHWEST TERMINAL

**Wacker  
Siltronic**

Hoffman  
Construction

St. Helens Rd.





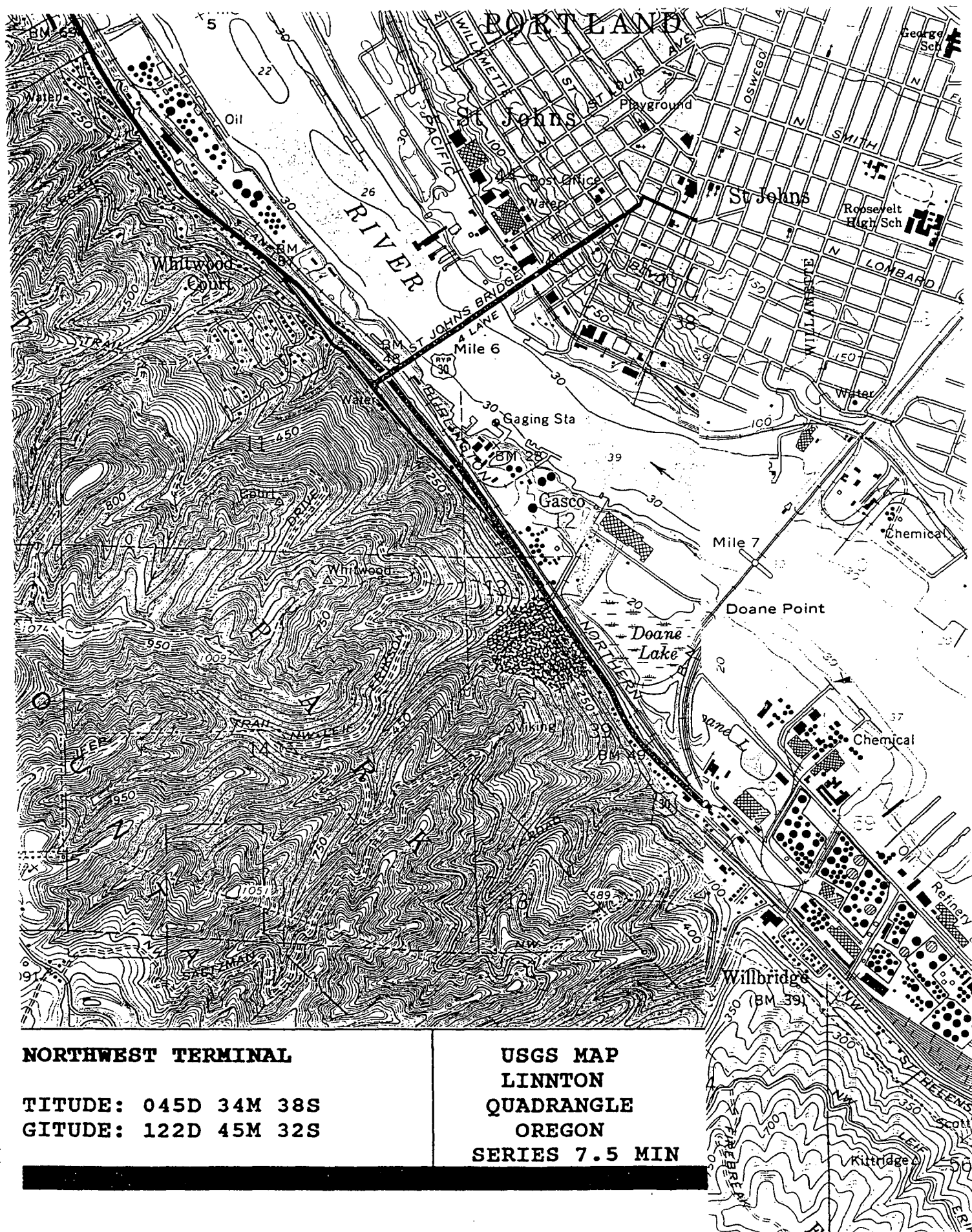
**KOPPERS  
INDUSTRIES**

**PITTSBURGH, PA**

**NORTHWEST TERMINAL**

**LATITUDE: 045D 34M 38S  
LONGITUDE: 122D 45M 32S**

**USGS MAP  
LINTON  
QUADRANGLE  
OREGON  
SERIES 7.5 MIN**

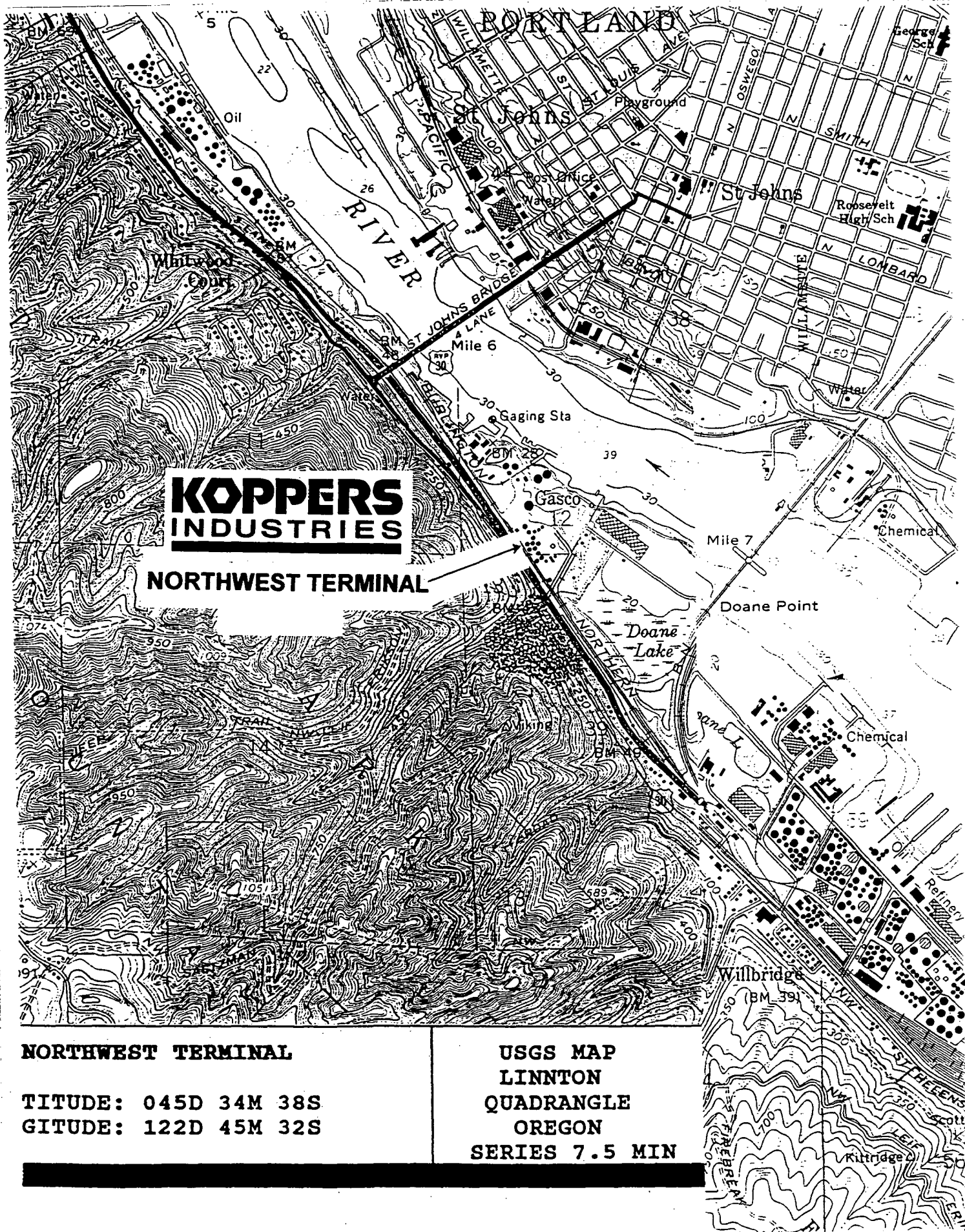


**NORTHWEST TERMINAL**

**TITUDE: 045D 34M 38S**

**GITUDE: 122D 45M 32S**

**USGS MAP  
LINNTON  
QUADRANGLE  
OREGON  
SERIES 7.5 MIN**



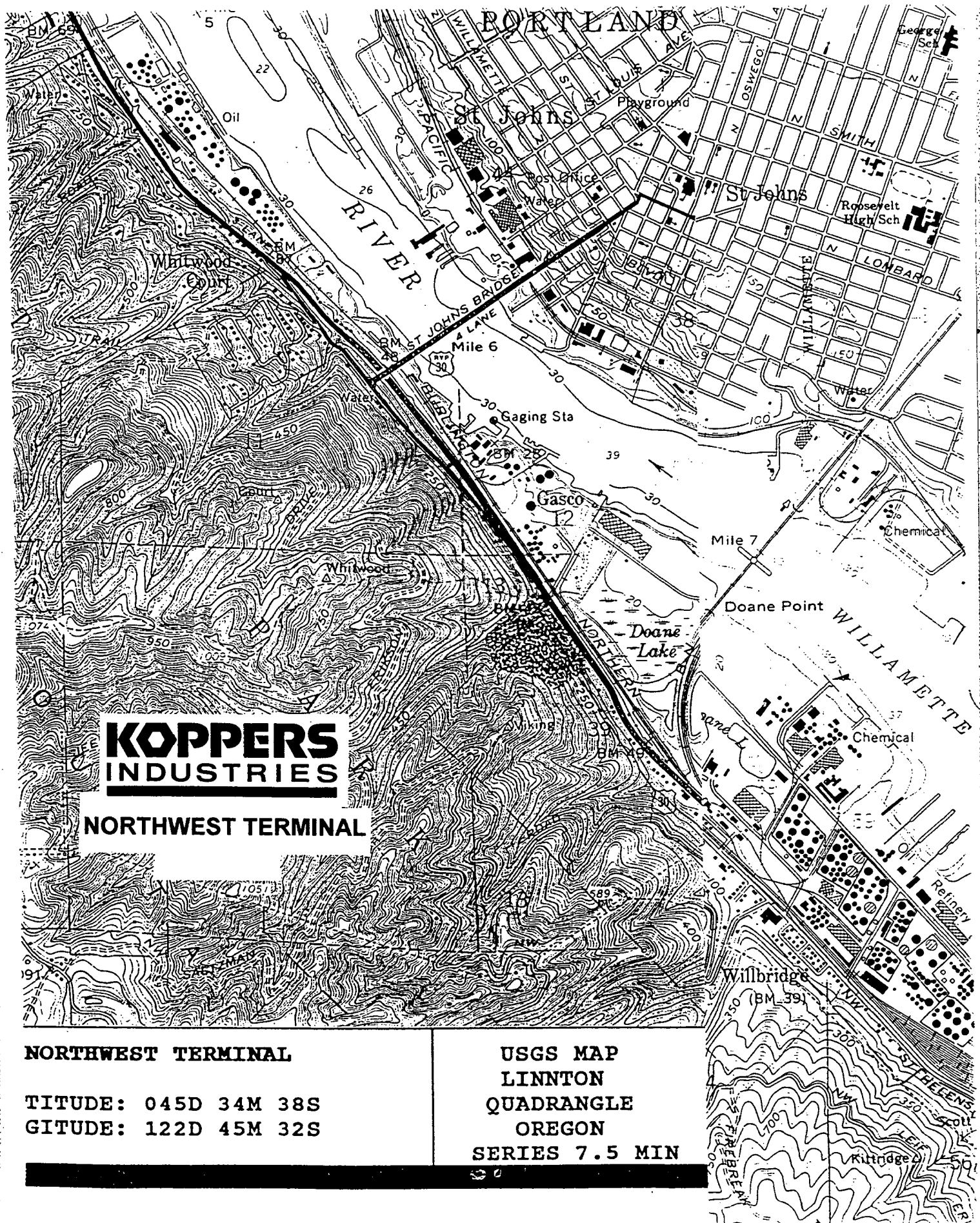
**NORTHWEST TERMINAL**

**TITUDE: 045D 34M 38S**

**GITUDE: 122D 45M 32S**

**USGS MAP  
LINNTON  
QUADRANGLE  
OREGON  
SERIES 7.5 MIN**



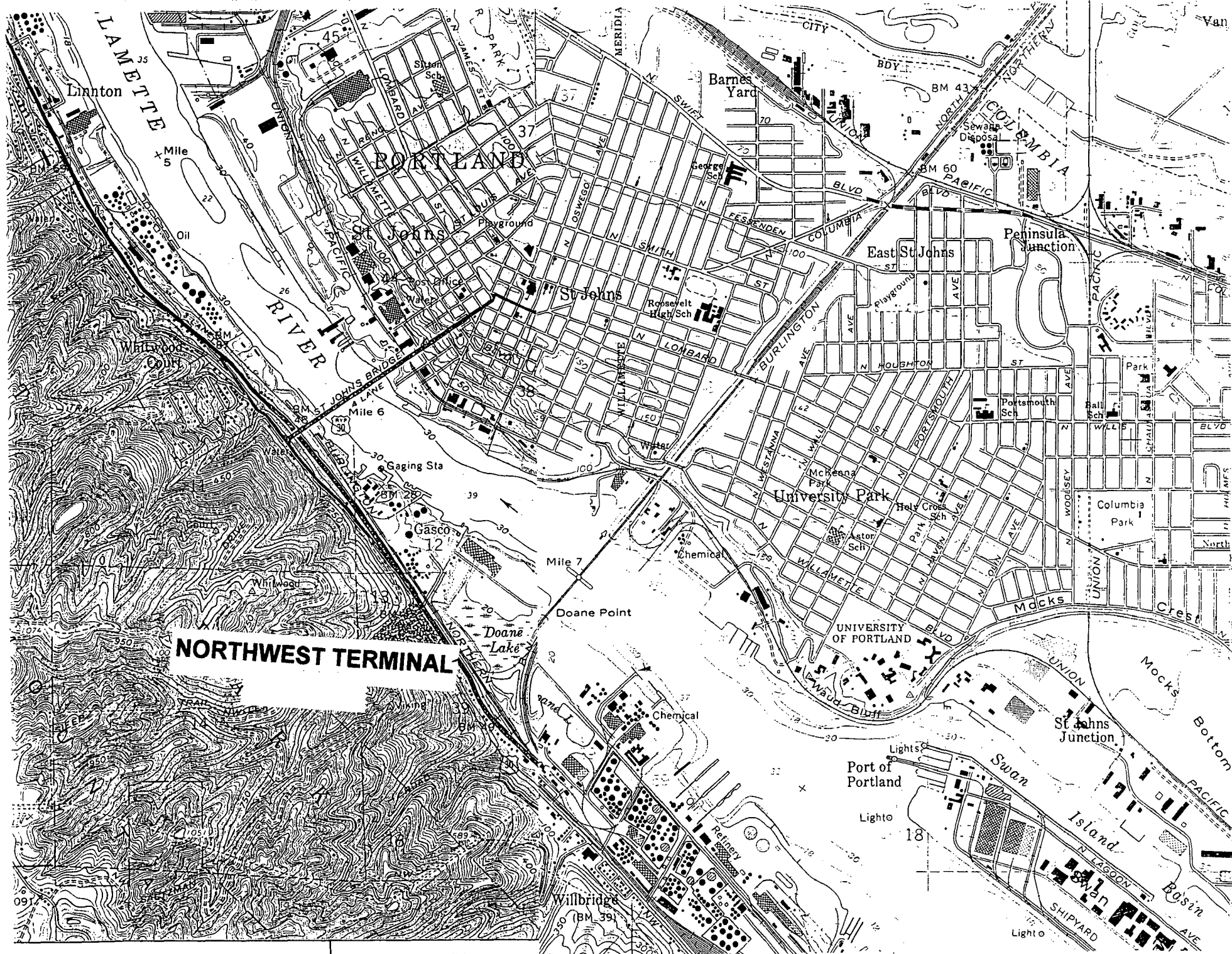


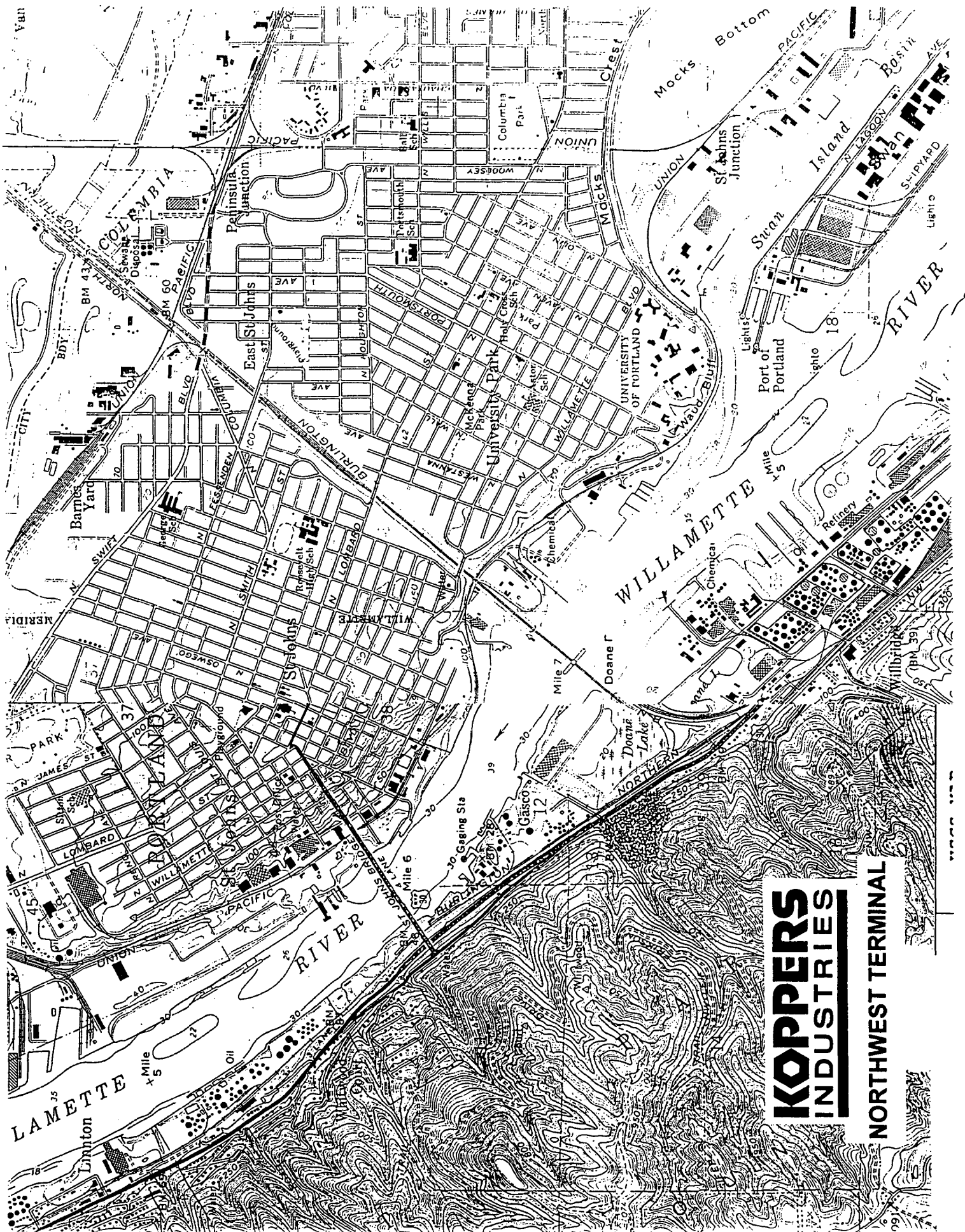
**NORTHWEST TERMINAL**

**TITUDE: 045D 34M 38S**

**GITUDE: 122D 45M 32S**

**USGS MAP  
LINNTON  
QUADRANGLE  
OREGON  
SERIES 7.5 MIN**





**KOPPERS**  
**INDUSTRIES**

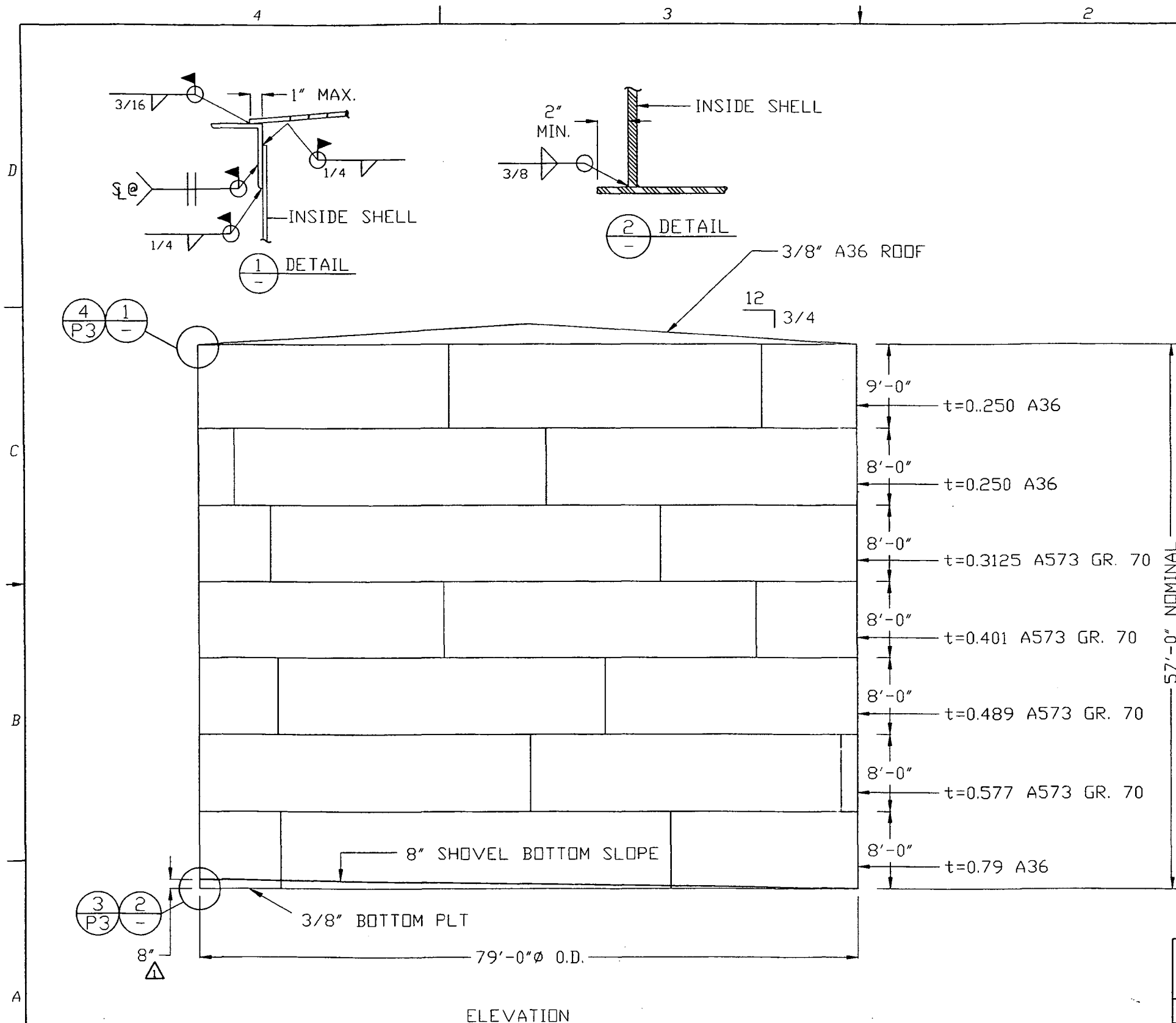
**NORTHWEST TERMINAL**

API-650/653 GENERAL TANK DATA

API Design Code ( 650 or 653 ) .....	650
Design Method (V, O, or A) .....	O
(V=variable, O=one foot, A=Appendix A)	
Run Objective (D=design, A=analyze) .....	D
Design Temperature .....	(F ) 500.00
Design Pressure at Top .....	(lb./sq.in.) .14444
Shell Material .....	A-36
Shell Design Stress [Sd] .....	(lb./sq.in.) 23200.
Shell Hydro Test Stress [St] .....	(lb./sq.in.) 24900.
Tank Nominal Diameter [D] .....	(ft.) 79.000
Tank Shell Height [HTK] .....	(ft.) 57.000
Design Liquid Level [H] .....	(ft.) 54.400
Liquid Specific Gravity [G] .....	1.2000
Weight of Attachments & Structures .....	(lb.) 2000.0
Distance down to Top Wind Girder .....	(ft.) .25000
Joint Efficiency (App A or 653) [E] .....	1.0000
Wind Velocity .....	(mph ) 100.02
Number of Shell Courses .....	7
Shell Course # 1 Height .....	(ft.) 8.0000
Shell Course # 1 Thickness .....	(in.) .79000
Shell Course # 1 Corrosion Allowance [CA] .....	(in.) .62500E-01
Shell Course # 2 Height .....	(ft.) 8.0000
Shell Course # 2 Thickness .....	(in.) .57700
Shell Course # 2 Corrosion Allowance [CA] .....	(in.) .62500E-01
Shell Course # 3 Height .....	(ft.) 8.0000
Shell Course # 3 Thickness .....	(in.) .48900
Shell Course # 3 Corrosion Allowance [CA] .....	(in.) .62500E-01
Shell Course # 4 Height .....	(ft.) 8.0000
Shell Course # 4 Thickness .....	(in.) .40100
Shell Course # 4 Corrosion Allowance [CA] .....	(in.) .62500E-01
Shell Course # 5 Height .....	(ft.) 8.0000
Shell Course # 5 Thickness .....	(in.) .31250
Shell Course # 5 Corrosion Allowance [CA] .....	(in.) .62500E-01
Shell Course # 6 Height .....	(ft.) 8.0000
Shell Course # 6 Thickness .....	(in.) .25000
Shell Course # 6 Corrosion Allowance [CA] .....	(in.) .62500E-01
Shell Course # 7 Height .....	(ft.) 9.0000
Shell Course # 7 Thickness .....	(in.) .25000
Shell Course # 7 Corrosion Allowance [CA] .....	(in.) .62500E-01

TANK SHELL COURSE MATERIALS

Shell Course # 1 Material Name .....	A-36
Shell Course # 1 Design Stress [Sd] .....	(lb./sq.in.) 23200.



REV	ZN	DESCRIPTION	U	DATE	BY	CHK
1	ALL	REVISED DETAILS	Y	12-8-98	WDB	FA
2						
3						
4						

**ROBERTS ENGINEERS**

399 TAYLOR BLVD., SUITE 200 PLEASANT HILL, CA 94523  
 PHONE: (925) 689-8080 FAX: (925) 689-8728  
 RTSREAC@NETVISTA.NET

DESIGN, CALCULATIONS BY: *Fai AuYoung*  
 Fai AuYoung, Registered Structural Engineer  
 Lic. S2412, California

APPROVED BY: *Richard J. Roberts*  
 REGISTERED PROFESSIONAL ENGINEER  
 OREGON  
 OCT. 6, 1978  
 RICHARD J. ROBERTS  
 Exp. 12.31.02

**MORSE CONSTRUCTION GROUP, INC.**  
 5500 SOUTH FIRST AVE. EVERETT, WA. 98203  
 (206) 258-2731 FAX (206) 259-6355

SCALE: N.T.S. APPROVED BY: DRAWN BY: WDB  
 DATE: 10-22-96 UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES PS-FAC: 1

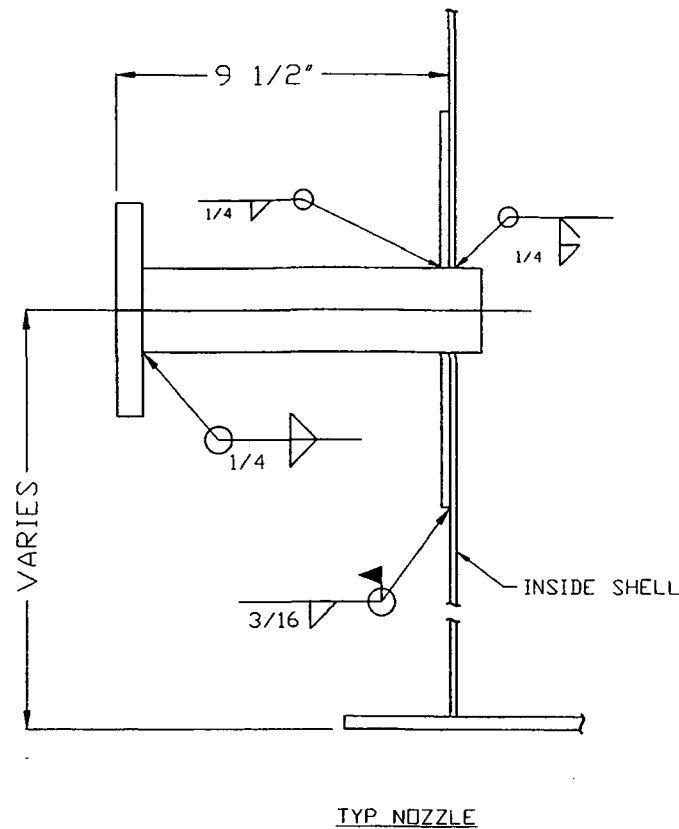
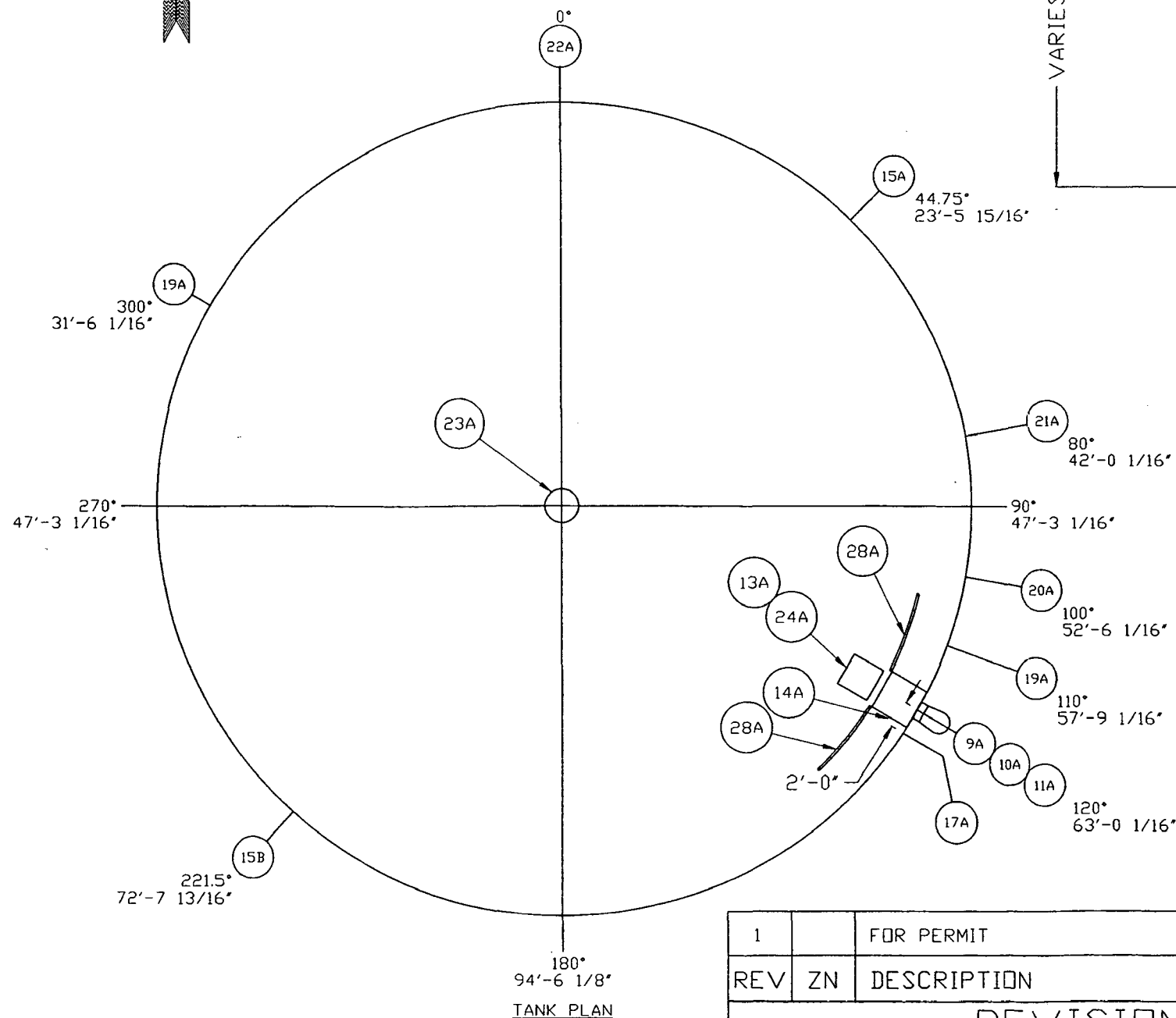
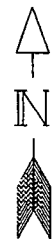
KOPPERS IND., PORTLAND, OR.  
 79'-0" Ø X 57'-0" API

ELEVATION SH.# 2380-PD-6158  
 P1 OF 3 DWG #: 238001P1

Koppers001595



NOTES:  
UNLESS NOTED OTHERWISE  
1. WELD SIZES SHALL EQUAL THICKNESS  
OF THINNER MEMBER JOINED.  
2. SEE SHEET #1 FOR GENERAL NOTES.  
3. SEE SHEET #1 FOR COATING



APPURTENANCE SCHEDULE * FROM TOP OF BTM PLATE				
ITEM	RADIUS	DEGREE	ELEV.*	DESCRIPTION
5A	SHELL	SEE SHT #5	--	ANCHOR CHAIR
9A	SHELL	120°	--	EXTERIOR LOWER LADDER
10A	SHELL	120°	--	EXTERIOR MID LADDER
11A	SHELL	120°	--	EXTERIOR UPPER LADDER
13A	SEE SHT #13	120°	--	INTERIOR LADDER
14A	ROOF	120°	--	ROOF PLATFORM
15A	SHELL	44.75°	5'-1 1/2"	24"Ø SHELL MANHOLE
15B	SHELL	221.5°	5'-1 1/2"	24"Ø SHELL MANHOLE
17A	SHELL	SEE PLAN	2'-0"	1"Ø SHELL COUPLING
18A	28'-6"	300°	BOTTOM	6"Ø DRAIN
19A	SHELL	110°	125'-0"	8"Ø OVERFLOW
20A	SHELL	100°	117'-0"	10"Ø INLET
21A	27'-0"	80°	BOTTOM	12"Ø OUTLET
22A	27'-0"	0°	BOTTOM	16"Ø FUTURE
23A	0'-0"	0°	ROOF	24"Ø ROOF VENT
24A	25'-3"	120°	ROOF	30" SQ. ROOF HATCH
25A	29'-6"	CONT.	SEE SHT #25	INTERIOR PAINTER RAIL
26A	30'-6"	CONT.	SEE SHT #26	EXTERIOR PAINTER RAIL
27A	SEE SHT #27	SEE SHT #27	ROOF	CATHODIC HANDHOLES
28A	SEE PLAN	SEE PLAN	ROOF	ROOF HANDRAIL

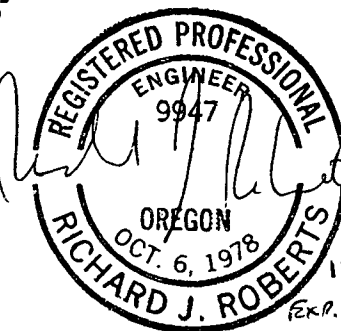


399 TAYLOR BLVD., SUITE 200 PLEASANT HILL, CA 94523  
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Fai AuYoung, Registered Structural Engineer  
Lic. S2412, California

APPROVED BY:



Richard J. Roberts, PE

**MORSE CONSTRUCTION GROUP, INC.**  
5500 SOUTH FIRST AVE. EVERETT, WA. 98203 (206) 258-2731  
FAX (206) 259-6355

SCALE: N.T.S. APPROVED BY: DRAWN BY: WDB  
DATE: 10-22-96 UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES PS-FAC: 132

KOPPERS IND., PORTLAND, OR.  
79'-0"Ø X 57'-0" API

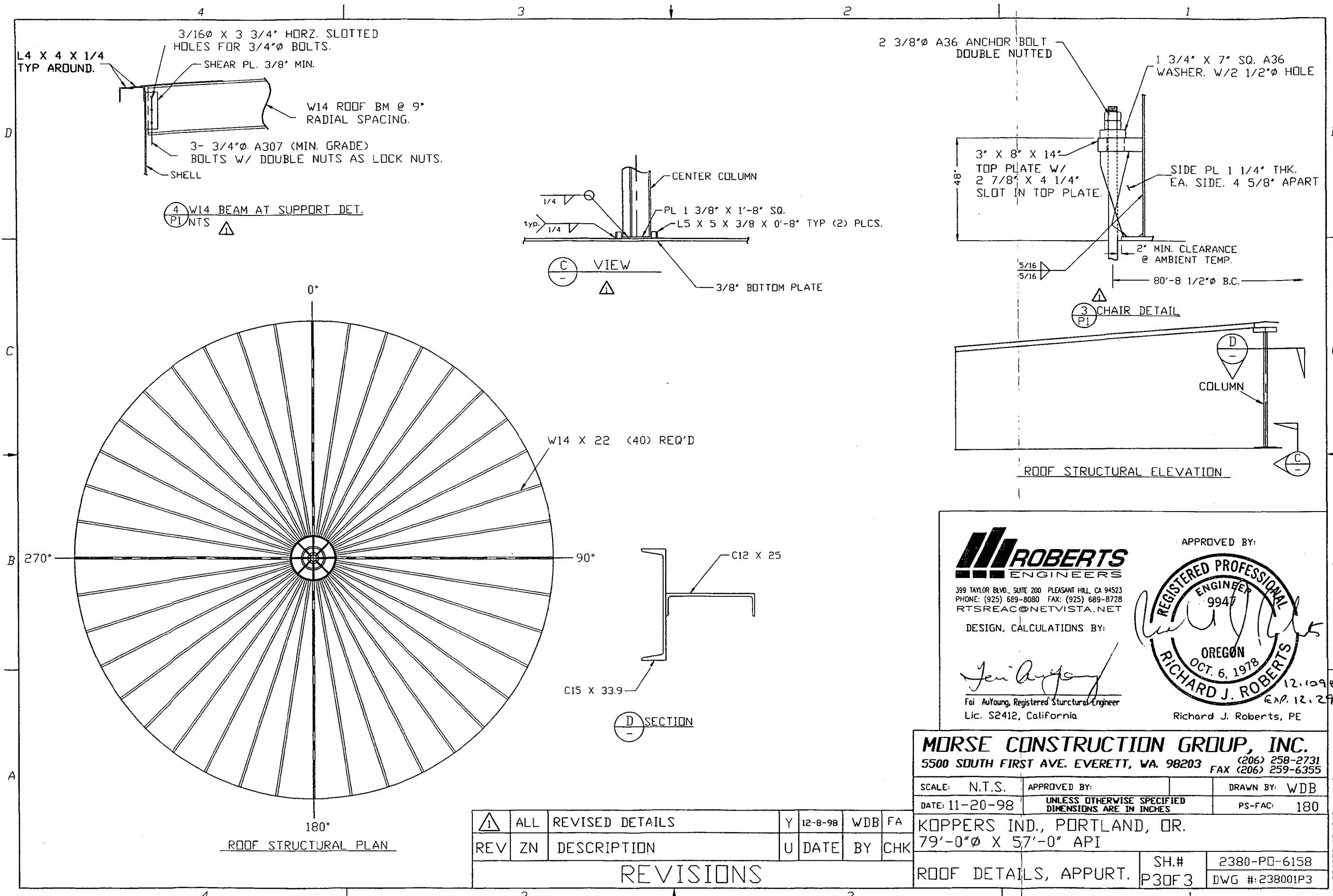
PLAN & APPURT.

SH.# 22380-PD-6158  
P20F3 DWG #:238001P2

1		FOR PERMIT		11/23/98	WDB	FA
REV	ZN	DESCRIPTION	U	DATE	BY	CHK
REVISIONS						

Koppers001596

VD86170 14:58:55



REV	ZN	DESCRIPTION	U	DATE	BY	CHK
1	ALL	REVISED DETAILS	Y	12-8-98	WDB	FA
2						
3						

REVISIONS

**ROBERTS ENGINEERS**

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Fai AuYoung, Registered Structural Engineer  
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SCALE: N.T.S.	APPROVED BY:	DRAWN BY: WDB
DATE: 11-20-98	UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES	PS-FAC: 180

KOPPERS IND., PORTLAND, OR.  
79'-0" X 57'-0" API

ROOF DETAILS, APPURT.

SH.#	2380-PD-6158
P30F3	DWG #: 238001P3

VDB6258 134219

**CI****CERTIFICATE OF ANALYSIS**

CLIENT: Koppers Industries, Inc.  
7840 NW St. Helens Road  
Portland OR, 97210-3883  
ATTN: Amos Kamerer

PROJECT NAME: Quarterly Stormwater Test  
PROJECT NUMBER: quarterly stormwater

PHONE: (503) 286-3681  
FAX: (503) 285-2831

SUBMITTED: 01/14/04 11:48

REPORT DATE: 01/16/04 15:06

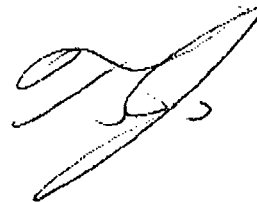
REPORT NUMBER: 4011404

PAGE: 1 C

CI SAMPLE	CLIENTS ID#	DATE	TIME	MATRIX			
4011404-01	Stormwater Tanks	01/14/2004	0000	Water			
SAMPLE/ ANALYSIS	METHOD	PARAMETER	RESULTS	UNITS	DETECTION LIMIT	TECH	DATE/TIME
4011404-01	SAMPLE ID: Stormwater Tanks						
General Bench Analysis							
O & G, TOTAL (HEM) EPA 1664		TOTAL OIL AND GREASE	ND-	mg/L	2.0	PA	01/14/2004 16:34
PHENOLS, TOTAL	EPA 420.1	TOTAL RECOVERABLE PHENOLICS	0.14	mg/L	0.050	AKH	01/16/2004 15:13
Semi-Volatile Organics by Gas Chromatography/Mass Spectroscopy							
PNAH 625	EPA 625 (SIM)	ACENAPHTHENE	12.9	ug/L	0.05	DM	01/16/2004 09:09
		ACENAPHTHYLENE	2.4	ug/L	0.05		
		ANTHRACENE	2.3	ug/L	0.05		
		BENZO(a)ANTHRACENE	2.5	ug/L	0.05		
		BENZO(a)PYRENE	4.4	ug/L	0.05		
		BENZO(b)FLUORANTHENE	4.3	ug/L	0.05		
		BENZO(g,h,i)PERYLENE	2.6	ug/L	0.05		
		BENZO(k)FLUORANTHENE	4.4	ug/L	0.05		
		CHRYSENE	4.7	ug/L	0.05		
		DIBENZO(a,h)ANTHRACENE	0.8	ug/L	0.05		
		FLUORANTHENE	9.1	ug/L	0.05		
		FLUORENE	4.0	ug/L	0.05		
		INDENO(1,2,3-cd)PYRENE	2.8	ug/L	0.05		
		NAPHTHALENE	ND	ug/L	0.05		
		PHENANTHRENE	2.4	ug/L	0.05		
		PYRENE	7.2	ug/L	0.05		
		Surrogate: 2-Fluorobiphenyl	66.8	92.8 %	%RECOVERY	50-150	
		Surrogate: Nitrobenzene-D6		120 %	%RECOVERY	50-150	
		Surrogate: p-terphenyl-D14		56.5 %	%RECOVERY	50-150	

ATTN: Traci

FROM

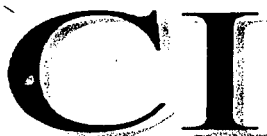


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Richard D. Reid - Laboratory Director

COLUMBIA INSPECTION, INC 7133 N. Lombard, Portland, OR 97203 Phone: (503) 286-9464 Fax: (503) 286-5355 E-mail: lab@columbiainspection.com



# CERTIFICATE OF ANALYSIS

CLIENT: Koppers Industries, Inc.  
7540 NW St. Helens Road  
Portland OR, 97210-3663  
ATTN: Amos Kamerer

PROJECT NAME: NPDES Permit Renewal Tests

PHONE: (503) 286-3681  
FAX: (503) 285-2831

SUBMITTED: 11/19/03 10:30

REPORT DATE: 12/15/03 16:33


REPORT NUMBER: 3111915

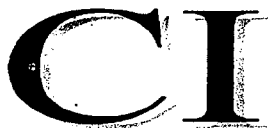
PAGE: 1 OF 5

CI SAMPLE	CLIENTS ID#	DATE	TIME	MATRIX			
3111915-01	Stormwater Tanks	11/19/2003	1015	Water			
SAMPLE/ ANALYSIS	METHOD	PARAMETER	RESULTS	UNITS	DETECTION LIMIT	TECH	DATE/TIME
3111915-01 SAMPLE ID: Stormwater Tanks							
General Bench Analysis							
AMMONIA DISTILLATION	EPA 350.2	AMMONIA NITROGEN	6.6	mg/L	0.20	JRW	12/05/2003 10:26
BOD	EPA 405.1	5-DAY BOD TEST	ND	mg/L	5.0	JRW	11/25/2003 15:22
COD	EPA 410.4	CHEMICAL OXYGEN DEMAND	36	mg/L	10	JRW	12/04/2003 11:25
COLOR - EPA	EPA 110.2	COLOR	5.0	COLOR UNIT		JRW	12/03/2003 11:04
CYANIDE, TOTAL	SM 4500-CN-B-C	CYANIDE	ND	mg/L	0.0030	JRW	12/02/2003 16:03
FLUORIDE - EPA	EPA 340.2	FLUORIDE	0.11	mg/L	0.10	JRW	12/04/2003 10:22
NITRATE NITROGEN	SM 4500 NO3-D	NITRATE NITROGEN	3.3	mg/L	0.10	JRW	12/03/2003 13:41
O & G, TOTAL (HEM)	EPA 1664	TOTAL OIL AND GREASE	ND	mg/L	2.0	PA	11/20/2003 13:27
PH	EPA 150.1/9040	pH	6.33	SU		JRW	11/20/2003 09:39
		TEMPERATURE (C)	14.2	SU			
PHENOLS, TOTAL	EPA 420.1	TOTAL RECOVERABLE PHENOLICS	0.066	mg/L	0.050	JRW	12/08/2003 11:28
PHOSPHORUS, TOTAL	EPA 365.3	PHOSPHORUS	0.37	mg/L	0.010	JRW	12/03/2003 14:19
RESIDUAL CHLORINE 1	EPA 330.4	RESIDUAL CHLORINE	ND	mg/L	0.010	DR	11/19/2003 16:41
SULFIDE	EPA 376.1	SULFIDE	ND	mg/L	1.0	JRW	12/01/2003 11:58
SULFITE	EPA 377.1	SULFITE	ND	mg/L	1.0	DR	11/20/2003 08:37
SURFACTANTS (MBAS)	SM 5540 C	MBAS, CALCULATED AS LAS	ND	mg LAS/L	0.020	DR	12/05/2003 08:29
SUSPENDED SOLIDS	EPA 160.2	TOTAL SUSPENDED SOLIDS	9.0	mg/L	1.0	JRW	12/02/2003 09:35
TKN	SM4500-N, C	TOTAL KJELDAHL NITROGEN	1.1	mg/L	0.20	JRW	12/05/2003 14:25
TOC	EPA 415.1	TOTAL ORGANIC CARBON	3.2	mg/L	0.50	DR	12/05/2003 08:29
Total Mercury by Cold Vapor Atomic Absorption							
MERCURY - CVAA	EPA 245.1/7470A	MERCURY	1.10	ug/L	0.500	DR	11/24/2003 11:24
Total Metals by Inductively Coupled Plasma							
ALUMINUM - ICP	EPA 200.7/6010B	ALUMINUM	ND	mg/L	0.020	BKB	12/10/2003 07:52
ANTIMONY - ICP		ANTIMONY	ND	mg/L	0.050	BKB	12/10/2003 07:52
ARSENIC - ICP		ARSENIC	ND	mg/L	0.030	BKB	12/10/2003 07:52
BARIUM - ICP		BARIUM	0.032	mg/L	0.002	BKB	12/10/2003 07:52
BERYLLIUM - ICP		BERYLLIUM	ND	mg/L	0.0010	BKB	12/10/2003 07:52
BORON-ICP		BORON	0.033	mg/L	0.010	BKB	12/10/2003 07:52
CADMIUM - ICP		CADMIUM	ND	mg/L	0.001	BKB	12/10/2003 07:52
CHROMIUM - ICP		CHROMIUM	0.002	mg/L	0.001	BKB	12/10/2003 07:52
COBALT - ICP		COBALT	ND	mg/L	0.010	BKB	12/10/2003 07:52
COPPER - ICP		COPPER	0.018	mg/L	0.003	BKB	12/10/2003 07:52

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REPORT DATE: 12/15/03 16:33

REPORT NUMBER: 3111915

PAGE: 2 OF 5

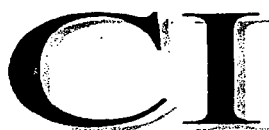
SAMPLE/ ANALYSIS	METHOD	PARAMETER	RESULTS	UNITS	DETECTION LIMIT	TECH	DATE/TIME
<b>3111915-01</b> <b>SAMPLE ID: Stormwater Tanks</b>							
Total Metals by Inductively Coupled Plasma							
IRON - ICP	EPA 200.7/6010B	IRON	ND	mg/L	0.20	BKB	12/10/2003 07:52
LEAD - ICP		LEAD	0.013	mg/L	0.009	BKB	12/10/2003 07:52
MAGNESIUM - ICP		MAGNESIUM	ND	mg/L	0.040	BKB	12/10/2003 07:52
MANGANESE - ICP		MANGANESE	ND	mg/L	0.002	BKB	12/10/2003 07:52
MOLYBDENUM - ICP		MOLYBDENUM	ND	mg/L	0.005	BKB	12/10/2003 07:52
NICKEL - ICP		NICKEL	ND	mg/L	0.004	BKB	12/10/2003 07:52
SELENIUM - ICP		SELENIUM	6.9	mg/L	0.030	BKB	12/10/2003 07:52
SILVER - ICP		SILVER	ND	mg/L	0.010	BKB	12/10/2003 07:52
THALLIUM - ICP		THALLIUM	ND	mg/L	0.070	BKB	12/10/2003 07:52
TIN - ICP		TIN	ND	mg/L	0.040	BKB	12/10/2003 07:52
TITANIUM - ICP		TITANIUM	ND	mg/L	0.050	BKB	12/10/2003 07:52
ZINC - ICP		ZINC	6.3	mg/L	0.001	DR	12/15/2003 16:28

**Volatile Organics by Gas Chromatography/Mass Spectroscopy**

VOC 624 Extended	EPA 624	ACROLEIN	ND	mg/L	0.1000	PA	11/21/2003 20:15
		ACRYLONITRILE	ND	mg/L	0.1000		
		BENZENE	0.0461	mg/L	0.0005		
		BROMOCHLOROMETHANE	ND	mg/L	0.0005		
		BROMODICHLOROMETHANE	ND	mg/L	0.0005		
		BROMOFORM	ND	mg/L	0.0005		
		CARBON TETRACHLORIDE	ND	mg/L	0.0005		
		CHLOROBENZENE	ND	mg/L	0.0005		
		CHLORODIBROMOMETHANE	ND	mg/L	0.0005		
		CHLOROETHANE	ND	mg/L	0.0005		
		2-CHLOROETHYL VINYL ETHER	ND	mg/L	0.0005		
		tert-BUTYLBENZENE	ND	mg/L	0.0005		
		CHLOROFORM	ND	mg/L	0.0005		
		CHLOROMETHANE	ND	mg/L	0.0005		
		DICHLOROBROMOMETHANE	ND	mg/L	0.0005		
		1,2-DICHLOROBENZENE	ND	mg/L	0.0005		
		1,3-DICHLOROBENZENE	ND	mg/L	0.0005		
		1,4-DICHLOROBENZENE	ND	mg/L	0.0005		
		1,1-DICHLOROETHANE	ND	mg/L	0.0005		
		1,2-DICHLOROETHANE	ND	mg/L	0.0005		
		1,1-DICHLOROETHYLENE	ND	mg/L	0.0005		
		1,2-DICHLOROPROPANE	ND	mg/L	0.0005		
		TRANS-1,3-DICHLOROPROPENE	ND	mg/L	0.0005		
		CIS-1,3-DICHLOROPROPENE	ND	mg/L	0.0005		
		TRANS-1,2-DICHLOROETHENE	ND	mg/L	0.0005		
		CIS-1,2-DICHLOROETHENE	ND	mg/L	0.0005		
		ETHYLBENZENE	0.0024	mg/L	0.0005		
		METHYL BROMIDE	ND	mg/L	0.0005		
		METHYL CHLORIDE	ND	mg/L	0.0005		
		METHYLENE CHLORIDE	ND	mg/L	0.0005		
		METHYL-TERT-BUTYL ETHER (MTBE)	ND	mg/L	0.0005		
		NAPHTHALENE	0.0265	mg/L	0.0005		
		STYRENE	0.0035	mg/L	0.0005		
		1,1,2,2-TETRACHLOROETHANE	ND	mg/L	0.0005		
		TETRACHLOROETHENE	ND	mg/L	0.0005		
		TOLUENE	0.0415	mg/L	0.0005		

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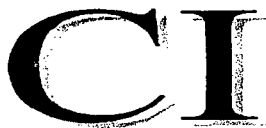
REPORT NUMBER: 3111915

PAGE: 3 OF 5

SAMPLE/ ANALYSIS	METHOD	PARAMETER	RESULTS	UNITS	DETECTION LIMIT	TECH	DATE/TIME
<b>3111915-01</b> SAMPLE ID: Stormwater Tanks							
Volatile Organics by Gas Chromatography/Mass Spectroscopy							
VOC 624 Extended	EPA 624	1,1,1-TRICHLOROETHANE	ND	mg/L	0.0005	PA	11/21/2003 20:15
		1,1,2-TRICHLOROETHANE	ND	mg/L	0.0005		
		TRICHLOROETHYLENE	ND	mg/L	0.0005		
		TRICHLOROFLUORMETHANE	ND	mg/L	0.0005		
		VINYL CHLORIDE	ND	mg/L	0.0005		
		DIBROMOMETHANE	ND	mg/L	0.0005		
		1,2-DIBROMOETHANE	ND	mg/L	0.0005		
		1,1,1,2-TETRACHLOROETHANE	ND	mg/L	0.0005		
		M- & P-XYLENE	0.0100	mg/L	0.0005		
		O-XYLENE	0.0050	mg/L	0.0005		
		1,2,3-TRICHLOROPROPANE	ND	mg/L	0.0005		
		1,2-DIBROMO-3-CHLOROPROPANE	ND	mg/L	0.0005		
		Surrogate: Dibromofluoromethane	102 %	%RECOVERY	50-150		
		Surrogate: Fluorobenzene	99.9 %	%RECOVERY	50-150		
		Surrogate: Chlorobenzene-d5	100 %	%RECOVERY	50-150		
		Surrogate: 1,4-Dichlorobenzene-d4	92.5 %	%RECOVERY	50-150		
Semi-Volatile Organics by Gas Chromatography/Mass Spectroscopy							
ACID SEMIVOLS 625	EPA 625	2-CHLOROPHENOL	ND	mg/L	0.0050	ZZZ	11/26/2003 23:58
		P-CHLORO-M-CRESOL	ND	mg/L	0.0050		
		2,4-DICHLOROPHENOL	ND	mg/L	0.0050		
		2,4-DIMETHYLPHENOL	ND	mg/L	0.0050		
		2,4-DINITROPHENOL	ND	mg/L	0.0050		
		2-NITROPHENOL	ND	mg/L	0.0050		
		4-NITROPHENOL	ND	mg/L	0.0050		
		PHENOL	ND	mg/L	0.0050		
		PENTACHLOROPHENOL	ND	mg/L	0.025		
		2,4,5-TRICHLOROPHENOL	ND	mg/L	0.0050		
		2,4,6-TRICHLOROPHENOL	ND	mg/L	0.0050		
		4,6-DINITRO-O-CRESOL	ND	mg/L	0.025		
		Surrogate: Phenol-d6	32.5 %	%RECOVERY	20-150		
		Surrogate: 2,4,6-Tribromophenol	105 %	%RECOVERY	50-150		
B/N SEMIVOL 625		ACENAPHTHENE	0.0088	mg/L	0.0050	DM	11/26/2003 23:58
		ACENAPHTHYLENE	ND	mg/L	0.0050		
		a-TERPINEOL	ND	mg/L	0.0050		
		ANTHRACENE	0.0055	mg/L	0.0050		
		BENZIDINE	ND	mg/L	0.010		
		BENZO(a)ANTHRACENE	0.0099	mg/L	0.0050		
		BENZO(a)PYRENE	0.022	mg/L	0.0050		
		BENZO(k)FLUORANTHENE	ND	mg/L	0.0050		
		BENZO(g,h,i)PERYLENE	0.016	mg/L	0.0050		
		BENZO(b)FLUORANTHENE	ND	mg/L	0.0050		
		BIS(2-CHLOROETHOXY)METHANE	ND	mg/L	0.0050		
		BIS(2-CHLOROETHYL)ETHER	ND	mg/L	0.0050		
		BIS(2-CHLOROISOPROPYL)ETHER	ND	mg/L	0.0050		
		BIS(2-ETHYLHEXYL)PHTHALATE	ND	mg/L	0.0050		
		BUTYL BENZYL PHTHALATE	ND	mg/L	0.0050		
		4-BROMOPHENYL PHENYL ETHER	ND	mg/L	0.0050		
		CARBAZOLE	ND	mg/L	0.0050		
		2-CHLORONAPHTHALENE	ND	mg/L	0.0050		
		4-CHLOROPHENYL PHENYL ETHER	ND	mg/L	0.0050		
		CHRYSENE	0.017	mg/L	0.0050		

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# CERTIFICATE OF ANALYSIS

REPORT DATE: 12/15/03 16:33

REPORT NUMBER: 3111915

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SAMPLE/ ANALYSIS	METHOD	PARAMETER	RESULTS	UNITS	DETECTION LIMIT	TECH	DATE/TIME
3111915-01	SAMPLE ID: Stormwater Tanks						
Semi-Volatile Organics by Gas Chromatography/Mass Spectroscopy							
		N-DECANE	ND	mg/L	0.0050		
		DIBENZO(a,h)ANTHRACENE	ND	mg/L	0.0050		
		3,3-DICHLOROBENZIDINE	ND	mg/L	0.010		
		1,2-DICHLOROBENZENE	ND	mg/L	0.0050		
		1,3-DICHLOROBENZENE	ND	mg/L	0.0050		
		1,4-DICHLOROBENZENE	ND	mg/L	0.0050		
		DIETHYL PHTHALATE	ND	mg/L	0.0050		
		DIMETHYL PHTHALATE	ND	mg/L	0.0050		
		DI-N-BUTYL PHTHALATE	ND	mg/L	0.0050		
		DI-N-OCTYL PHTHALATE	ND	mg/L	0.0050		
		2,4-DINITROTOLUENE	ND	mg/L	0.010		
		1,2-DIPHENYLHYDRAZINE (as AZOBENZENE)	ND	mg/L	0.0050		
		2,6-DINITROTOLUENE	ND	mg/L	0.010		
		FLUORANTHENE	0.028	mg/L	0.0050		
		FLUORENE	0.0061	mg/L	0.0050		
		HEXACHLOROBENZENE	ND	mg/L	0.0050		
		HEXACHLOROBUTADIENE	ND	mg/L	0.0050		
		HEXACHLOROCYCLOPENTADIENE	ND	mg/L	0.025		
		HEXACHLOROETHANE	ND	mg/L	0.0050		
		INDENO(1,2,3-cd)PYRENE	0.013	mg/L	0.0050		
		ISOPHORONE	ND	mg/L	0.0050		
		NAPHTHALENE	0.022	mg/L	0.0050		
		NITROBENZENE	ND	mg/L	0.0050		
		N-NITROSODIMETHYLAMINE	ND	mg/L	0.0050		
		N-NITROSODIPHENYLAMINE	ND	mg/L	0.0050		
		N-NITROSO-DI-N-PROPYLAMINE	ND	mg/L	0.0050		
		N-OCTADECANE	ND	mg/L	0.0050		
		PHENANTHRENE	0.023	mg/L	0.0050		
		PYRENE	0.023	mg/L	0.0050		
		1,2,4-TRICHLOROBENZENE	ND	mg/L	0.0050		
		Surrogate: 2-Fluorobiphenyl	112 %	%RECOVERY	50-150		
		Surrogate: Nitrobenzene-D5	129 %	%RECOVERY	50-150		
		Surrogate: p-terphenyl-D14	95.7 %	%RECOVERY	50-150		

## Semi-Volatile Organics by Gas Chromatography/ECD

PCBs 625	EPA 625 (SCAN)	AROCHLOR 1016	ND	mg/L	0.0028	DM	12/03/2003 15:51
		AROCHLOR 1221	ND	mg/L	0.0028		
		AROCHLOR 1232	ND	mg/L	0.0028		
		AROCHLOR 1242	ND	mg/L	0.0028		
		AROCHLOR 1248	ND	mg/L	0.0028		
		AROCHLOR 1254	ND	mg/L	0.0028		
		AROCHLOR 1260	ND	mg/L	0.0028		
PESTICIDES 625	EPA 625 (SIM)	ALDRIN	ND	mg/L	0.0040	DM	11/27/2003 18:21
		ALPHA-BHC	ND	mg/L	0.0020		
		BETA-BHC	ND	mg/L	0.0040		
		GAMMA-BHC (LINDANE)	ND	mg/L	0.0020		
		DELTA-BHC	ND	mg/L	0.0040		
		4,4-DDD	ND	mg/L	0.0080		
		4,4-DDE	ND	mg/L	0.0040		
		CHLORDANE	ND	mg/L	0.0040		
		4,4-DDT	ND	mg/L	0.0080		

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# CERTIFICATE OF ANALYSIS

REPORT DATE: 12/15/03 16:33

REPORT NUMBER: 3111915

PAGE: 5 OF 5

SAMPLE/ ANALYSIS	METHOD	PARAMETER	RESULTS	UNITS	DETECTION LIMIT	TECH	DATE/TIME
<b>3111915-01</b>							
SAMPLE ID: Stormwater Tanks							
Semi-Volatile Organics by Gas Chromatography/ECD							
PESTICIDES 625	EPA 625 (SIM)	DIELDRIN	ND	mg/L	0.0040	DM	11/27/2003 18:21
		ENDOSULFAN I	ND	mg/L	0.0040		
		ENDOSULFAN II	ND	mg/L	0.0080		
		ENDOSULFAN SULFATE	ND	mg/L	0.0080		
		ENDRIN	ND	mg/L	0.0040		
		ENDRIN ALDEHYDE	ND	mg/L	0.010		
		ENDRIN KETONE	ND	mg/L	0.010		
		HEPTACHLOR	ND	mg/L	0.0040		
		HEPTACHLOR EPOXIDE	ND	mg/L	0.0040		
		METHOXYCHLOR	ND	mg/L	0.010		
		TOXAPHENE	ND	mg/L	0.080		
Subcontracted Analysis							
BROMIDE - IC	EPA 300.0	BROMIDE	ND	mg/L	0.050	DR	12/15/2003 16:05
FECAL COLIFORM	SM 9222 D	FECAL COLIFORM	490	CFU/100 ml	2.0	DR	11/20/2003 17:00
SULFATE- IC	EPA 300.0	SULFATE	5.8	mg/L	0.10	DR	12/10/2003 08:32

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FROM: KOPPERS

FAX NO. :5032852831

Mar. 12 2004 09:55AM P2

Columbia Inspection

503 285 7891

03/11/04 09:01am P. 002



# CERTIFICATE OF ANALYSIS

CLIENT: Koppers Industries, Inc.  
ATTN: T.J. Turner  
7540 NW St. Helens Road  
Portland OR, 97210-3663

PROJECT NAME: NPDES Permit Renewal Tests

PHONE: (503) 286-3881

FAX: (503) 285-2831

SUBMITTED: 02/28/04 17:07

REPORT DATE: 03/11/04 18:06

REPORT NUMBER: 4022616

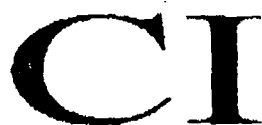
PAGE: 1 OF 6

CI SAMPLE	CLIENTS ID#	DATE	TIME	MATRIX			
4022616-01	Stormwater Tank	02/28/2004	1815	Water			
SAMPLE/ ANALYSIS	METHOD	PARAMETER	RESULTS	UNITS	DETECTION LIMIT	TECH	DATE/TIME
4022616-01 SAMPLE ID: Stormwater Tank							
General Bench Analysis							
AMMONIA DISTILLATION	EPA 350.2	AMMONIA NITROGEN	0.84	mg/L	0.20	AKH	03/11/2004 08:14
BOD	EPA 405.1	5-DAY BOD TEST	ND	mg/L	5.0	AKH	03/08/2004 09:07
COD	EPA 410.4	CHEMICAL OXYGEN DEMAND	31	mg/L	10	AKH	03/11/2004 12:56
COLOR - EPA	EPA 110.2	COLOR	45	COLOR UNIT		AKH	03/11/2004 07:43
CYANIDE, TOTAL	SM 4500-CN-B-C	CYANIDE	0.0052	mg/l	0.0030	AKH	03/10/2004 09:50
FLUORIDE - EPA	EPA 340.2	FLUORIDE	0.18	mg/L	0.10	AKH	03/04/2004 15:58
NITRATE NITROGEN	SM 4500 NO3-D	NITRATE NITROGEN	2.0	mg/L	0.10	AKH	03/04/2004 15:51
O & G, TOTAL (HEM)	EPA 1664	TOTAL OIL AND GREASE	8.7	mg/L	2.0	PA	02/27/2004 15:52
PH	EPA 150.1/9040	pH	6.71	SU		AKH	02/27/2004 08:23
		TEMPERATURE (C)	22.2	SU			
PHENOLS, TOTAL	EPA 420.1	TOTAL RECOVERABLE PHENOLICS	0.008	mg/L	0.050	AKH	03/01/2004 10:57
PHOSPHORUS, TOTAL	EPA 365.3	PHOSPHORUS	0.072	mg/L	0.010	AKH	03/04/2004 08:47
RESIDUAL CHLORINE 1	EPA 330.4	RESIDUAL CHLORINE	ND	mg/L	0.050	AKH	02/27/2004 13:48
SULFATE, TURBID	EPA 375.4	SULFATE	5.98	mg/L	5.00	AKH	03/11/2004 13:02
SULFIDE	EPA 376.1	SULFIDE	ND	mg/L	1.0	AKH	03/01/2004 13:23
SULFITE	EPA 377.1	SULFITE	ND	mg/L	1.0	DR	03/11/2004 14:44
SURFACTANTS (MBAS)	SM 6540 C	MBAS, CALCULATED AS LAS	0.12	mg LAS/L	0.020	SUB	03/11/2004 07:29
SUSPENDED SOLIDS	EPA 180.2	TOTAL SUSPENDED SOLIDS	4.0	mg/L	1.0	AKH	03/02/2004 13:43
TKN	SM4600-N, C	TOTAL KJELDAHL NITROGEN	1.5	mg/L	0.20	AKH	03/05/2004 15:36
TOC	EPA 415.1	TOTAL ORGANIC CARBON	4.9	mg/L	0.50	DR	03/11/2004 07:35
Total Mercury by Cold Vapor Atomic Absorption							
MERCURY - CVAA	EPA 245.1/7470A	MERCURY	ND	ug/L	0.200	SUB	03/04/2004 14:45
Total Metals by Inductively Coupled Plasma							
ALUMINUM - ICP	EPA 200.7/6010B	ALUMINUM	0.077	mg/L	0.020	BKB	03/01/2004 13:45
ANTIMONY - ICP		ANTIMONY	ND	mg/L	0.005	BKB	03/01/2004 13:45
ARSENIC - ICP		ARSENIC	ND	mg/L	0.010	BKB	03/01/2004 13:45
BARIUM - ICP		BARIUM	0.008	mg/L	0.002	BKB	03/01/2004 13:45
BERYLLIUM - ICP		BERYLLIUM	ND	mg/L	0.0010	BKB	03/01/2004 13:45
BORON-ICP		BORON	0.021	mg/L	0.010	BKB	03/01/2004 13:45
CADMIUM - ICP		CADMIUM	ND	mg/L	0.001	BKB	03/01/2004 13:45
CHROMIUM - ICP		CHROMIUM	ND	mg/L	0.001	BKB	03/01/2004 13:45
COBALT - ICP		COBALT	ND	mg/L	0.010	BKB	03/01/2004 13:45
COPPER - ICP		COPPER	0.011	mg/L	0.001	BKB	03/01/2004 13:45
IRON - ICP		IRON	1.5	mg/L	0.005	BKB	03/01/2004 13:45

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# CERTIFICATE OF ANALYSIS

REPORT DATE: 03/11/04 14:45

REPORT NUMBER: 4022618

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SAMPLE/ANALYSIS	METHOD	PARAMETER	RESULTS	UNITS	DETECTION LIMIT	TECH	DATE/TIME
<b>4022618-01 SAMPLE ID: Stormwater Tank</b>							
<b>Total Metals by Inductively Coupled Plasma</b>							
LEAD - ICP	EPA 200.7/8010B	LEAD	ND	mg/L	0.001	BKB	03/01/2004 13:45
MAGNESIUM - ICP		MAGNESIUM	2.6	mg/L	0.040	BKB	03/01/2004 13:45
MANGANESE - ICP		MANGANESE	0.19	mg/L	0.001	BKB	03/01/2004 13:45
MOLYBDENUM - ICP		MOLYBDENUM	ND	mg/L	0.001	BKB	03/01/2004 13:45
NICKEL - ICP		NICKEL	ND	mg/L	0.004	BKB	03/01/2004 13:45
SELENIUM - ICP		SELENIUM	ND	mg/L	0.030	BKB	03/01/2004 13:45
SILVER - ICP		SILVER	ND	mg/L	0.010	BKB	03/01/2004 13:45
THALLIUM - ICP		THALLIUM	ND	mg/L	0.070	BKB	03/01/2004 13:45
TIN - ICP		TIN	0.042	mg/L	0.040	BKB	03/01/2004 13:45
TITANIUM - ICP		TITANIUM	ND	mg/L	0.050	BKB	03/01/2004 13:45
ZINC - ICP		ZINC	0.091	mg/L	0.001	BKB	03/01/2004 13:45
<b>Volatile Organics by Gas Chromatography/Mass Spectroscopy</b>							
VOC 824 Extended	EPA 824	ACROLEIN	ND	mg/L	0.1000	PA	03/10/2004 08:24
		ACRYLONITRILE	ND	mg/L	0.1000		
		BENZENE	0.6250	mg/L	0.0005		
		BROMOCHLOROMETHANE	ND	mg/L	0.0005		
		BROMODICHLOROMETHANE	ND	mg/L	0.0005		
		BROMOFORM	ND	mg/L	0.0005		
		CARBON TETRACHLORIDE	ND	mg/L	0.0005		
		CHLOROBENZENE	ND	mg/L	0.0005		
		CHLORODIBROMOMETHANE	ND	mg/L	0.0005		
		CHLOROETHANE	ND	mg/L	0.0005		
		2-CHLOROETHYL VINYL ETHER	ND	mg/L	0.0005		
		tert-BUTYLBENZENE	ND	mg/L	0.0005		
		CHLOROFORM	ND	mg/L	0.0005		
		CHLOROMETHANE	ND	mg/L	0.0005		
		DICHLOROBROMOMETHANE	ND	mg/L	0.0005		
		1,2-DICHLOROBENZENE	ND	mg/L	0.0005		
		1,3-DICHLOROBENZENE	ND	mg/L	0.0005		
		1,4-DICHLOROBENZENE	ND	mg/L	0.0005		
		1,1-DICHLOROETHANE	ND	mg/L	0.0005		
		1,2-DICHLOROETHANE	ND	mg/L	0.0005		
		1,1-DICHLOROETHYLENE	ND	mg/L	0.0005		
		1,2-DICHLOROPROPANE	ND	mg/L	0.0005		
		TRANS-1,3-DICHLOROPROPENE	ND	mg/L	0.0005		
		CIS-1,3-DICHLOROPROPENE	ND	mg/L	0.0005		
		TRANS-1,2-DICHLOROETHENE	ND	mg/L	0.0005		
		CIS-1,2-DICHLOROETHENE	ND	mg/L	0.0005		
		ETHYLBENZENE	0.0164	mg/L	0.0005		
		METHYL BROMIDE	ND	mg/L	0.0005		
		METHYL CHLORIDE	ND	mg/L	0.0005		
		METHYLENE CHLORIDE	ND	mg/L	0.0005		
		METHYL-TERT-BUTYL ETHER (MTBE)	ND	mg/L	0.0005		
		NAPHTHALENE	0.3473	mg/L	0.0005		
		STYRENE	0.0412	mg/L	0.0005		
		1,1,2,2-TETRACHLOROETHANE	ND	mg/L	0.0005		
		TETRACHLOROETHENE	ND	mg/L	0.0005		
		TOLUENE	0.4708	mg/L	0.0005		
		1,1,1-TRICHLOROETHANE	ND	mg/L	0.0005		
		1,1,2-TRICHLOROETHANE	ND	mg/L	0.0005		
		TRICHLOROETHYLENE	ND	mg/L	0.0005		
		TRICHLOROFLUOROMETHANE	ND	mg/L	0.0005		
		VINYL CHLORIDE	ND	mg/L	0.0005		
		DIBROMOMETHANE	ND	mg/L	0.0005		
		1,2-DIBROMOETHANE	ND	mg/L	0.0005		

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# CERTIFICATE OF ANALYSIS

REPORT DATE: 03/11/04 14:45

REPORT NUMBER: 4022816

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SAMPLE/ANALYSIS	METHOD	PARAMETER	RESULTS	UNITS	DETECTION LIMIT	TECH	DATE/TIME
4022816-01	SAMPLE ID: Stormwater Tank						
Volatile Organics	by Gas Chromatography/Mass Spectroscopy						
VOC 624 Extended	EPA 824	1,1,1,2-TETRACHLOROETHANE	ND	mg/L	0.0005	PA	03/10/2004 08:24
		M- & P-XYLENE	0.0748	mg/L	0.0005		
		O-XYLENE	0.0387	mg/L	0.0005		
		1,2,3-TRICHLOROPROPANE	ND	mg/L	0.0005		
		1,2-DIBROMO-3-CHLOROPROPANE	ND	mg/L	0.0005		
		Surrogate: Dibromofluoromethane	94.7 %	%RECOVERY	50-150		
		Surrogate: Fluorobenzene	80.5 %	%RECOVERY	50-150		
		Surrogate: Chlorobenzene-d5	105 %	%RECOVERY	50-150		
		Surrogate: 1,4-Dichlorobenzene-d4	91.9 %	%RECOVERY	50-150		

## Semi-Volatile Organics by Gas Chromatography/Mass Spectroscopy

ACID SEMI/VOLS 625	EPA 825	2-CHLOROPHENOL	ND	mg/L	0.0028	DM	03/03/2004 23:18
		P-CHLORO-M-CRESOL	ND	mg/L	0.0028		
		2,4-DICHLOROPHENOL	ND	mg/L	0.0028		
		2,4-DIMETHYLPHENOL	0.0044	mg/L	0.0028		
		2,4-DINITROPHENOL	ND	mg/L	0.0028		
		2-NITROPHENOL	ND	mg/L	0.0028		
		4-NITROPHENOL	ND	mg/L	0.0028		
		PHENOL	0.020	mg/L	0.0028		
		PENTACHLOROPHENOL	ND	mg/L	0.013		
		2,4,5-TRICHLOROPHENOL	ND	mg/L	0.0028		
		2,4,6-TRICHLOROPHENOL	ND	mg/L	0.0028		
		4,6-DINITRO-O-CRESOL	ND	mg/L	0.013		
		Surrogate: Phenol-d8	25.1 %	%RECOVERY	10-150		
		Surrogate: 2,4,6-Tribromophenol	91.5 %	%RECOVERY	50-150		

B/N SEMI/VOL 625

ACENAPHTHENE	ND	mg/L	0.0025	DM	03/03/2004 23:18
ACENAPHTHYLENE	ND	mg/L	0.0025		
α-TERPINEOL	ND	mg/L	0.0025		
ANTHRACENE	ND	mg/L	0.0025		
BENZIDINE	ND	mg/L	0.0050		
BENZO(a)ANTHRACENE	ND	mg/L	0.0025		
BENZO(a)PYRENE	ND	mg/L	0.0025		
BENZO(k)FLUORANTHENE	ND	mg/L	0.0025		
BENZO(g,h,i)PERYLENE	ND	mg/L	0.0025		
BENZO(b)FLUORANTHENE	ND	mg/L	0.0025		
BIS(2-CHLOROETHOXY)METHANE	ND	mg/L	0.0025		
BIS(2-CHLOROETHYL)ETHER	ND	mg/L	0.0025		
BIS(2-CHLOROISOPROPYL)ETHER	ND	mg/L	0.0025		
BIS(2-ETHYLHEXYL)PHTHALATE	0.0052	mg/L	0.0025		
BUTYL BENZYL PHTHALATE	ND	mg/L	0.0025		
4-BROMOPHENYL PHENYL ETHER	ND	mg/L	0.0025		
CARBAZOLE	ND	mg/L	0.0025		
2-CHLORONAPHTHALENE	ND	mg/L	0.0025		
4-CHLOROPHENYL PHENYL ETHER	ND	mg/L	0.0025		
CHRYSENE	ND	mg/L	0.0025		
N-DECANE	ND	mg/L	0.0025		
DIBENZO(a,h)ANTHRACENE	ND	mg/L	0.0025		
3,3-DICHLORO BENZIDINE	ND	mg/L	0.0050		
1,2-DICHLOROBENZENE	ND	mg/L	0.0025		
1,3-DICHLOROBENZENE	ND	mg/L	0.0025		
1,4-DICHLOROBENZENE	ND	mg/L	0.0025		
DIETHYL PHTHALATE	0.012	mg/L	0.0025		
DIMETHYL PHTHALATE	ND	mg/L	0.0025		
DI-N-BUTYL PHTHALATE	ND	mg/L	0.0025		
DI-N-OCTYL PHTHALATE	ND	mg/L	0.0025		
2,4-DINITROTOLUENE	ND	mg/L	0.0050		

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# CERTIFICATE OF ANALYSIS

REPORT DATE: 03/11/04 14:45

REPORT NUMBER: 4022818

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SAMPLE/ ANALYSIS	METHOD	PARAMETER	RESULTS	UNITS	DETECTION LIMIT	TECH	DATE/TIME
4022616-01	SAMPLE ID: Stormwater Tank						
Semi-Volatile Organics by Gas Chromatography/Mass Spectroscopy							
B/N SEMIVOL 825	EPA 825	1,2-DIPHENYLHYDRAZINE (as AZOBENZENE)	ND	mg/L	0.0025	DM	03/03/2004 23:16
		2,6-DINITROTOLUENE	ND	mg/L	0.0050		
		FLUORANTHENE	ND	mg/L	0.0025		
		FLUORENE	ND	mg/L	0.0025		
		HEXACHLOROBENZENE	ND	mg/L	0.0025		
		HEXACHLOROBUTADIENE	ND	mg/L	0.0025		
		HEXACHLOROCYCLOPENTADIENE	ND	mg/L	0.012		
		HEXACHLOROETHANE	ND	mg/L	0.0025		
		INDENO(1,2,3-cd)PYRENE	ND	mg/L	0.0025		
		ISOPHORONE	ND	mg/L	0.0025		
		NAPHTHALENE	ND	mg/L	0.0025		
		NITROBENZENE	ND	mg/L	0.0025		
		N-NITROSODIMETHYLAMINE	ND	mg/L	0.0025		
		N-NITROBODIPHENYLAMINE	ND	mg/L	0.0025		
		N-NITROSO-DI-N-PROPYLAMINE	ND	mg/L	0.0025		
		N-OCTADECANE	ND	mg/L	0.0025		
		PHENANTHRENE	ND	mg/L	0.0025		
		PYRENE	ND	mg/L	0.0025		
		1,2,4-TRICHLOROBENZENE	ND	mg/L	0.0025		
		Surrogate: 2-Fluorobiphenyl	80.0 %	%RECOVERY	50-150		
		Surrogate: Nitrobenzene-D5	83.3 %	%RECOVERY	50-150		
		Surrogate: p-terphenyl-D14	73.5 %	%RECOVERY	50-150		

## Semi-Volatile Organics by Gas Chromatography/ECD

PCRs 625	EPA 825 (SCAN)	AROCHLOR 1016	ND	mg/L	0.0012	DM	03/08/2004 16:41
		AROCHLOR 1221	ND	mg/L	0.0012		
		AROCHLOR 1232	ND	mg/L	0.0012		
		AROCHLOR 1242	ND	mg/L	0.0012		
		AROCHLOR 1248	ND	mg/L	0.0012		
		AROCHLOR 1254	ND	mg/L	0.0012		
		AROCHLOR 1260	ND	mg/L	0.0012		

PESTICIDES 625	EPA 825 (SIM)	ALDRIN	ND	mg/L	0.0017	DM	03/08/2004 15:47
		ALPHA-BHC	ND	mg/L	0.00083		
		BETA-BHC	ND	mg/L	0.0017		
		GAMMA-BHC (LINDANE)	ND	mg/L	0.00083		
		DELTA-BHC	ND	mg/L	0.0017		
		4,4-DDD	ND	mg/L	0.0033		
		4,4-DDE	ND	mg/L	0.0017		
		CHLORDANE	ND	mg/L	0.0017		
		4,4-DDT	ND	mg/L	0.0033		
		DIELDRIN	ND	mg/L	0.0017		
		ENDOSULFAN I	ND	mg/L	0.0017		
		ENDOSULFAN II	ND	mg/L	0.0033		
		ENDOSULFAN SULFATE	ND	mg/L	0.0033		
		ENDRIN	ND	mg/L	0.0017		
		ENDRIN ALDEHYDE	ND	mg/L	0.0042		
		ENDRIN KETONE	ND	mg/L	0.0042		
		HEPTACHLOR	ND	mg/L	0.0017		
		HEPTACHLOR EPOXIDE	ND	mg/L	0.0017		
		METHOXYCHLOR	ND	mg/L	0.0042		
		TOXAPHENE	ND	mg/L	0.0033		

## Subcontracted Analysis

FECAL COLIFORM	SM 8222 D	FECAL COLIFORM	23	CFU/100 ml	2.0	SUB	03/11/2004 07:28
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Authorized for Release By: Richard D. Reid - Laboratory Director

FROM : KOPPERS

Columbia Inspection

FAX NO. : 5032852831  
503 285 7881

Mar. 12 2004 09:57AM P6



# CERTIFICATE OF ANALYSIS

REPORT DATE: 03/11/04 14:45

REPORT NUMBER: 4022616

PAGE: 5 OF 5

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Authorized for Release By: Richard D. Reid - Laboratory Director

COLUMBIA INSPECTION, INC 7133 N. Lombard, Portland, OR 97203 Phone: (503) 286-9484 Fax: (503) 286-5355 E-mail: lab@Columbiainspection.com

Koppers001608



# CERTIFICATE OF ANALYSIS

CLIENT: KOPPERS INDUSTRIES, INC.  
7540 NW ST. HELENS ROAD  
PORTLAND OR 97210-3663

PHONE: (503) 286-3681  
FAX: (503) 285-2831

DATE SUBMITTED: 07/22/97

PO#:

PROJECT NAME: NPDES Permit Renewal

CI SAMPLE #	CLIENTS ID#	DATE	TIME	DESCRIPTION
971005-001-01		07/22/97	1430	WW Tanks 2,4,6
971005-001-02		07/22/97	1430	WW Tanks 2,4,6
971005-001-03		07/22/97	1430	WW Tanks 2,4,6
971005-001-04		07/22/97	1430	WW Tanks 2,4,6
971005-001-05		07/22/97	1430	WW Tanks 2,4,6
971005-001-06		07/22/97	1430	WW Tanks 2,4,6
971005-001-07		07/22/97	1430	WW Tanks 2,4,6
971005-001-08		07/22/97	1430	WW Tanks 2,4,6
971005-001-09		07/22/97	1430	WW Tanks 2,4,6

REPORT DATE: 07/31/97

REPORT NUMBER: 971005

PAGE: 1 OF 4

SAMPLE	TEST	PARAMETER	RESULT	UNIT	DETECTION LIMIT	ANALYST
971005-001-01	BOD EPA 405.1	5-DAY BOD TEST	6	mg/L	5	Jacob F.
971005-001-01	BROMIDE EPA 300.08	BROMIDE	ND	mg/L	0.01	CLI
971005-001-01	COLOR - EPA EPA 110.2	COLOR	20	COLOR UNIT 5		Dick R.
971005-001-02	FECAL COLIFORM SM 9222 D	FECAL COLIFORM	ND	/100 m		Dick R.

REVIEWED BY:

Richard D. Reid - Laboratory Director

# CERTIFICATE OF ANALYSIS

REPORT DATE: 07/31/97

REPORT NUMBER: 971005

PAGE: 2 OF 4

SAMPLE	TEST	PARAMETER	RESULT	UNIT	DETECTION LIMIT	ANALYST
971005-001-01	FLUORIDE EPA 340.2	FLUORIDE	0.2	PPM	0.2	Jacob F.
971005-001-01	NITRATE SM 4500-NO3 D	NITRATE AS NO3-N	ND	PPM	1	Jacob F.
971005-001-01	PH EPA 150.1	pH	6.83			Dick R.
971005-001-01	RESIDUAL CHLORINE 1 EPA 330.4	RESIDUAL CHLORINE	ND	mg/L	0.05	Dick R.
971005-001-01	SULFATE, TURBID. EPA 375.4	SULFATE	7.3	PPM	5	Dick R.
971005-001-01	SULFITE EPA 377.1	SULFITE	ND	PPM	1	Dick R.
971005-001-02	SURFACTANTS (MBAS) SM 5540 C	MBAS, CALCULATED AS LAS	0.28	mg LAS/L	0.02 mg	Dick R.
971005-001-01	SUSPENDED SOLIDS EPA 160.2	TOTAL SUSPENDED SOLIDS	ND	PPM	1	Gordon L.
971005-001-03	AMMONIA EPA 350.3	AMMONIA AS NH3-N	ND	PPM	1	Dick R.
971005-001-03	COD EPA 410.4	CHEMICAL OXYGEN DEMAND	9	PPM	5	Dick R.
971005-001-03	PHOSPHORUS, TOTAL EPA 365.2	TOTAL PHOSPHORUS	0.60	PPM	0.01	Dick R.
971005-001-03	TKN SM 4500-N	TOTAL KJELDAHL NITROGEN	ND	MG/L	1	Dick R.
971005-001-03	TOC EPA 415.1	TOTAL ORGANIC CARBON	7.3	PPM	0.5	Jacob F.
971005-001-04	O & G TOTAL, GRAV. SM 5520 B	TOTAL OIL & GREASE	ND	PPM	2	Gordon L.

# CERTIFICATE OF ANALYSIS

REPORT DATE: 07/31/97

REPORT NUMBER: 971005

PAGE: 3 OF 4

SAMPLE	TEST	PARAMETER	RESULT	UNIT	DETECTION LIMIT	ANALYST
971005-001-06	ALUMINUM - ICP EPA 200.7/6010	TOTAL ALUMINUM	ND	PPM	0.02	Eleanor T.
971005-001-06	ANTIMONY - ICP EPA 200.7/6010	TOTAL ANTIMONY	ND	PPM	0.1	Eleanor T.
971005-001-06	ARSENIC - ICP EPA 200.7/6010	TOTAL ARSENIC	ND	PPM	0.1	Eleanor T.
971005-001-06	BARIUM - ICP EPA 200.7/6010	TOTAL BARIUM	ND	PPM	0.02	Eleanor T.
971005-001-06	BERYLLIUM - ICP EPA 200.7/6010	TOTAL BERYLLIUM	ND	PPM	0.01	Eleanor T.
971005-001-06	BORON EPA 200.7/6010	BORON	ND	PPM	0.01	Eleanor T.
971005-001-06	CADMIUM - ICP EPA 200.7/6010	TOTAL CADMIUM	ND	PPM	0.01	Eleanor T.
971005-001-06	CHROMIUM - ICP EPA 200.7/6010	TOTAL CHROMIUM	ND	PPM	0.02	Eleanor T.
971005-001-06	COBALT - ICP EPA 200.7/6010	TOTAL COBALT	ND	PPM	0.03	Eleanor T.
971005-001-06	COPPER - ICP EPA 200.7/6010	TOTAL COPPER	ND	PPM	0.01	Eleanor T.
971005-001-06	IRON - ICP EPA 200.7/6010	TOTAL IRON	1.0	PPM	0.02	Eleanor T.
971005-001-06	LEAD - ICP EPA 200.7/6010	TOTAL LEAD	ND	PPM	0.06	Eleanor T.
971005-001-06	MAGNESIUM - ICP EPA 200.7/6010	TOTAL MAGNESIUM	5.2	PPM	0.01	Eleanor T.
971005-001-06	MANGANESE - ICP EPA 200.7/6010	TOTAL MANGANESE	1.0	PPM	0.01	Eleanor T.



# CERTIFICATE OF ANALYSIS

REPORT DATE: 07/31/97

REPORT NUMBER: 971005

PAGE: 4 OF 4

SAMPLE	TEST	PARAMETER	RESULT	UNIT	DETECTION LIMIT	ANALYST
971005-001-06	MERCURY - CVAA EPA 245.1/7470	TOTAL MERCURY	ND	PPM	0.0003	Eleanor T.
971005-001-06	MOLYBDENUM - ICP EPA 200.7/6010	TOTAL MOLYBDENUM	ND	PPM	0.02	Eleanor T.
971005-001-06	NICKEL - ICP EPA 200.7/6010	TOTAL NICKEL	ND	PPM	0.03	Eleanor T.
971005-001-06	SELENIUM - ICP EPA 200.7/6010	TOTAL SELENIUM	ND	PPM	0.14	Eleanor T.
971005-001-06	SILVER - ICP EPA 200.7/6010	TOTAL SILVER	ND	PPM	0.1	Eleanor T.
971005-001-06	THALLIUM - ICP EPA 200.7/6010	TOTAL THALLIUM	ND	PPM	0.3	Eleanor T.
971005-001-06	TIN - ICP EPA 200.7/6010	TOTAL TIN	ND	PPM	0.07	Eleanor T.
971005-001-06	TITANIUM - GFAA EPA 283.2	TITANIUM	ND	PPM	0.002	Eleanor T.
971005-001-06	ZINC - ICP EPA 200.7/6010	TOTAL ZINC	ND	PPM	0.02	Eleanor T.
971005-001-07	CYANIDE, TOTAL EPA 335.2	TOTAL CYANIDE	ND	PPM	0.01	GLI
971005-001-08	PHENOLS, TOTAL EPA 420.1	TOTAL RECOVERABLE PHENOLICS	0.16	PPM	0.05	Dick R.
971005-001-09	SULFIDES EPA 376.2	SULFIDES	ND	PPM	0.1	Dick R.



# CERTIFICATE OF ANALYSIS

CLIENT: KOPPERS INDUSTRIES, INC.  
7540 NW ST. HELENS ROAD  
PORTLAND OR 97210-3663

PHONE: (503) 286-3681  
FAX: (503) 285-2831

DATE SUBMITTED: 06/30/97

PO#:

PROJECT NAME: Permit Reapplication Test

CI SAMPLE #	CLIENTS ID#	DATE	TIME	DESCRIPTION
970894-001-01		06/30/97	1130	WM Tks 2,4,6
970894-001-02		06/30/97	1130	WM Tks 2,4,6

REPORT DATE: 07/09/97

REPORT NUMBER: 970894

PAGE: 1 OF 5


SAMPLE	TEST	PARAMETER	RESULT	UNIT	DETECTION LIMIT	ANALYST
970894-001-01	B/W/A SEMIVOLS 2 EPA 625	ACID EXTRACTIBLES				Jacob F.
		2-CHLOROPHENOL	ND	PPM	0.005	
		4-CHLORO-3-METHYLPHENOL	ND	PPM	0.005	
		2,4-DICHLOROPHENOL	ND	PPM	0.005	
		2,4-DIMETHYLPHENOL	ND	PPM	0.005	
		2,4-DINITROPHENOL	ND	PPM	0.050	
		2-NITROPHENOL	ND	PPM	0.005	
		4-NITROPHENOL	ND	PPM	0.050	
		PHENOL	ND	PPM	0.005	
		PENTACHLOROPHENOL	ND	PPM	0.025	
		2,4,6-TRICHLOROPHENOL	ND	PPM	0.005	
		4,6-DINITRO-2-METHYLPHENOL	ND	PPM	0.025	

SURROGATE 1	OBSOURED	% RECOVERY	50%-150%
SURROGATE 2	85%	% RECOVERY	50%-150%

## B/W EXTRACTABLES

ACENAPHTHENE	0.006	PPM	0.005
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REVIEWED BY:

  
Richard D. Reid - Laboratory Director

# CERTIFICATE OF ANALYSIS

REPORT DATE: 07/09/97

REPORT NUMBER: 970894

PAGE: 2 OF 5

SAMPLE	TEST	PARAMETER	RESULT	UNIT	DETECTION LIMIT	ANALYST
970894-001-01	B/W/A SEMI-VOLS 2 EPA 625	ACENAPHTHYLENE	ND	PPM	0.005	Jacob F.
		ANTHRACENE	ND	PPM	0.005	
		BENZIDINE	ND	PPM	0.010	
		BENZO(a)ANTHRACENE	0.020	PPM	0.005	
		BENZO(a)PYRENE	0.009	PPM	0.005	
		BENZO(b)FLUORANTHRENE	0.010	PPM	0.005	
		BENZO(ghi)PYRENE	ND	PPM	0.005	
		BENZO(k)FLUORANTHRENE	0.010	PPM	0.005	
		BIS(2-CHLOROETHOXY)METHANE	ND	PPM	0.005	
		BIS(2-CHLOROETHYL)ETHER	ND	PPM	0.005	
		BIS(2-CHLORISOPROPYL)ETHER	ND	PPM	0.005	
		BIS(2-ETHYLHEXYL)PHTHALATE	ND	PPM	0.005	
		BUTYL BENZYL PHTHALATE	ND	PPM	0.005	
		4-BROMOPHENYL PHENYL ETHER	ND	PPM	0.005	
		2-CHLORONAPHTHALENE	ND	PPM	0.005	
		4-CHLOROPHENYL PHENYL ETHER	ND	PPM	0.005	
		CHRYSENE	ND	PPM	0.005	
		1,2-DIBENZO(a)ANTHRACENE	ND	PPM	0.005	
		3,3-DICHLOROBENZIDINE	ND	PPM	0.010	
		1,2-DICHLOROBENZENE	ND	PPM	0.005	
		1,3-DICHLOROBENZENE	ND	PPM	0.005	
		1,4-DICHLOROBENZENE	ND	PPM	0.005	
		DIETHYL PHTHALATE	ND	PPM	0.005	
		DIMETHYL PHTHALATE	ND	PPM	0.005	
		DI-N-BUTYL PHTHALATE	ND	PPM	0.005	
		DI-N-OCTYL PHTHALATE	ND	PPM	0.005	
		2,4-DINITROTOLUENE	ND	PPM	0.010	
		2,6-DINITROTOLUENE	ND	PPM	0.010	
		FLUORANTHENE	0.010	PPM	0.005	
		FLUORENE	ND	PPM	0.005	
		HEXACHLOROBENZENE	ND	PPM	0.005	
		HEXACHLOROCYCLOPENTADIENE	ND	PPM	0.005	
		HEXACHLOROCYCLOPENTADIENE	ND	PPM	0.025	
		HEXACHLOROETHANE	ND	PPM	0.005	
		INDENO(1,2,3-cd)PYRENE	ND	PPM	0.005	
		ISOPHORONE	ND	PPM	0.005	
		NAPHTHALENE	ND	PPM	0.005	
		NITROBENZENE	ND	PPM	0.005	
		N-NITROSODIMETHYLAMINE	ND	PPM	0.005	
		N-NITROSODIPHENYLAMINE	ND	PPM	0.005	
		N-NITroso-DI-N-PROPYLAMINE	ND	PPM	0.005	
		PHENANTHRENE	0.005	PPM	0.005	
		PYRENE	0.011	PPM	0.005	
		1,2,4-TRICHLOROBENZENE	ND	PPM	0.005	

# CERTIFICATE OF ANALYSIS

REPORT DATE: 07/09/97

REPORT NUMBER: 970894

PAGE: 3 OF 5

SAMPLE	TEST	PARAMETER	RESULT	UNIT	DETECTION LIMIT	ANALYST
970894-001-01	PESTICIDES & PCBs EPA 8080	PESTICIDES				Jacob F.
		ALDRIN	ND	PPM	0.004	
		ALPHA-BHC	ND	PPM	0.002	
		BETA-BHC	ND	PPM	0.004	
		GAMMA-BHC (LINDANE)	ND	PPM	0.004	
		DELTA-BHC	ND	PPM	0.004	
		ALPHA-CHLORDANE	ND	PPM	0.004	
		GAMMA-CHLORDANE	ND	PPM	0.004	
		4,4'-DDD	ND	PPM	0.008	
		4,4'-DDE	ND	PPM	0.004	
		4,4'-DDT	ND	PPM	0.008	
		DIELDRIN	ND	PPM	0.004	
		ENDOSULFAN I	ND	PPM	0.004	
		ENDOSULFAN II	ND	PPM	0.008	
		ENDOSULFAN SULFATE	ND	PPM	0.008	
		ENDRIN ALDEHYDE	ND	PPM	0.010	
		ENDRIN KETONE	ND	PPM	0.008	
		ENDRIN	ND	PPM	0.004	
		HEPTACHLOR	ND	PPM	0.004	
		HEPTACHLOR EPOXIDE	ND	PPM	0.004	
		METHOXYCHLOR	ND	PPM	0.040	
		TOXAPHENE	ND	PPM	0.020	
		PCBs				
		AROCLOR 1016	ND	PPM	0.05	
		AROCLOR 1221	ND	PPM	0.05	
		AROCLOR 1232	ND	PPM	0.05	
		AROCLOR 1242	ND	PPM	0.05	
		AROCLOR 1248	ND	PPM	0.05	
		AROCLOR 1254	ND	PPM	0.05	
		AROCLOR 1260	ND	PPM	0.05	
		SURROGATE 1	117%	% RECOVERY	50%-150%	
		SURROGATE 2	OBSCURED	% RECOVERY	50%-150%	
		SURROGATE 3	85%	% RECOVERY	50%-150%	
970894-001-02	VOLATILE ORGANICS 1 EPA 8260	BENZENE	0.029	PPM	0.005	Jacob F.
		BROMOBENZENE	ND	PPM	0.005	

# CERTIFICATE OF ANALYSIS

REPORT DATE: 07/09/97

REPORT NUMBER: 970894

PAGE: 4 OF 5

SAMPLE	TEST	PARAMETER	RESULT	UNIT	DETECTION LIMIT	ANALYST
970894-001-02	VOLATILE ORGANICS 1 EPA 8260	BROMOCHLOROMETHANE	NO	PPM	0.005	Jacob F.
		BROMODICHLOROMETHANE	NO	PPM	0.005	
		BROMOFORM	NO	PPM	0.005	
		BROMOMETHANE	NO	PPM	0.005	
		N-BUTYLBENZENE	NO	PPM	0.005	
		SEC-BUTYLBENZENE	NO	PPM	0.005	
		TERT-BUTYLBENZENE	NO	PPM	0.005	
		CARBON TETRACHLORIDE	NO	PPM	0.005	
		CHLOROGENE	NO	PPM	0.005	
		CHLOROETHANE	NO	PPM	0.005	
		CHLOROFORM	NO	PPM	0.005	
		CHLOROMETHANE	NO	PPM	0.025	
		2-CHLOROTOLUENE	NO	PPM	0.005	
		4-CHLOROTOLUENE	NO	PPM	0.005	
		DIBROMOCHLOROMETHANE	NO	PPM	0.005	
		1,2-DIBROMO-3-CHLOROPROPANE	NO	PPM	0.050	
		1,2-DIBROMOETHANE	NO	PPM	0.005	
		DIBROMOETHANE	NO	PPM	0.005	
		1,2-DICHLOROGENE	NO	PPM	0.005	
		1,3-DICHLOROGENE	NO	PPM	0.005	
		1,4-DICHLOROGENE	NO	PPM	0.005	
		DICHLORODIFLUOROMETHANE	NO	PPM	0.050	
		1,1-DICHLOROETHANE	NO	PPM	0.005	
		1,1-DICHLOROETHENE	NO	PPM	0.005	
		CIS-1,2-DICHLOROETHENE	NO	PPM	0.005	
		TRANS-1,2-DICHLOROETHENE	NO	PPM	0.005	
		1,2-DICHLOROPROPANE	NO	PPM	0.005	
		1,3-DICHLOROPROPANE	NO	PPM	0.005	
		2,2-DICHLOROPROPANE	NO	PPM	0.005	
		1,1-DICHLOROPROPENE	NO	PPM	0.005	
		1,2-DICHLOROETHANE	NO	PPM	0.005	
		CIS-1,3-DICHLOROPROPENE	NO	PPM	0.005	
		TRANS-1,3-DICHLOROPROPENE	NO	PPM	0.005	
		ETHYLBENZENE	NO	PPM	0.005	
		HEXACHLOROBUTADIENE	NO	PPM	0.025	
		ISOPROPYLBENZENE	NO	PPM	0.005	
		P-ISOPROPYLTOLUENE	NO	PPM	0.005	
		METHYLENE CHLORIDE	NO	PPM	0.005	
		NAPHTHALENE	0.025	PPM	0.025	
		N-PROPYLBENZENE	NO	PPM	0.005	
		STYRENE	0.005	PPM	0.005	
		1,1,1,2-TETRACHLOROETHANE	NO	PPM	0.005	
		1,1,2,2-TETRACHLOROETHANE	NO	PPM	0.015	
		TETRACHLOROETHENE	NO	PPM	0.005	

# CERTIFICATE OF ANALYSIS

REPORT DATE: 07/09/97

REPORT NUMBER: 970894

PAGE: 5 OF 5

SAMPLE	TEST	PARAMETER	RESULT	UNIT	DETECTION LIMIT	ANALYST
970894-001-02	VOLATILE ORGANICS 1 EPA 8260	TOLUENE	0.027	PPM	0.005	Jacob F.
		1,2,3-TRICHLOROBENZENE	ND	PPM	0.025	
		1,2,4-TRICHLOROBENZENE	ND	PPM	0.025	
		1,1,1-TRICHLOROETHANE	ND	PPM	0.005	
		1,1,2-TRICHLOROETHANE	ND	PPM	0.005	
		TRICHLOROETHENE	ND	PPM	0.005	
		TRICHLOROFLUOROMETHANE	ND	PPM	0.005	
		1,2,3-TRICHLOROPROPANE	ND	PPM	0.005	
		1,2,4-TRIMETHYLBENZENE	ND	PPM	0.005	
		1,3,5-TRIMETHYLBENZENE	ND	PPM	0.005	
		VINYL CHLORIDE	ND	PPM	0.025	
		M- & P-XYLENE	0.024	PPM	0.005	
		O-XYLENE	0.018	PPM	0.005	
		✓ACETONITRILE	NA	PPM	NA	
		✓ACROLEIN	NA	PPM	NA	
		2-CHLOROETHYL VINYL ETHER	ND	PPM	0.050	
		SURROGATE 1	84%		% RECOVERY 80%-120%	
		SURROGATE 2	87%		% RECOVERY 80%-120%	
		SURROGATE 3	87%		% RECOVERY 80%-120%	

**DELIVER IMMEDIATELY!!**

**To:** Amos Kameron  
Koppers Industries, Inc.  
**Fax #:** 503-285-2831  
**Re:** Stormwater analyses  
**Date:** July 21, 1997  
**Pages:** 10, including cover sheet.

Dear Amos:

Columbia did not analyze the stormwater sample for all constituents that are designated on the Form 2C. See attached form and have them do so ASAP. You will have to get another sample of stormwater ASAP!!! I don't understand why Columbia didn't do a full analysis.

Also, acrolein and acetonitrile showed "NA" as a concentration. This is unacceptable. The results must show an actual number or "ND" for none detect. Check the certificate of analysis for any others like this.

I will talk to tomorrow. Thanks.

Regards,  
WES

From .....

**William E. Swearingen**  
Manager, Environmental Programs  
Koppers Industries, Inc.  
436 Seventh Avenue; K-1800  
Pittsburgh, PA 15219-1800

Tel: 412-227-2883  
Fax: 412-227-2423

# FOR KOPPERS PORTLAND

EPA I.D. NUMBER (copy from Item 1 of Form 1)

PLEASE PRINT OR TYPE IN THE UNSHADED AREAS ONLY. You may report some or all of this information on separate sheets (use the same format) instead of completing these pages. SEE INSTRUCTIONS.

V. INTAKE AND EFFLUENT CHARACTERISTICS (continued from page 3 of Form 2-C)												OUTFALL NO.
PART A - You must provide the results of at least one analysis for every pollutant in this table. Complete one table for each outfall. See instructions for additional details.												
1. POLLUTANT	2. EFFLUENT						3. UNITS (specify if blank)		4. INTAKE (optional)			
	a. MAXIMUM DAILY VALUE		b. MAXIMUM 30 DAY VALUE (if available)		c. LONG TERM AVG. VALUE (if available)		d. NO. OF ANALYSES	a. CONCENTRATION	b. MASS	a. LONG TERM AVERAGE VALUE		b. NO. OF ANALYSES
	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS				(1) CONCENTRATION	(2) MASS	
a. Biochemical Oxygen Demand (BOD)	X											
b. Chemical Oxygen Demand (COD)	X											
c. Total Organic Carbon (TOC)	X											
d. Total Suspended Solids (TSS)	X											
e. Ammonia (as N)	X											
f. Flow	VALUE		VALUE		VALUE					VALUE		
g. Temperature (winter)	VALUE		VALUE		VALUE			°C		VALUE		
h. Temperature (summer)	VALUE		VALUE		VALUE			°C		VALUE		
i. pH	X	MINIMUM	MAXIMUM	MINIMUM	MAXIMUM			STANDARD UNITS				

PART B - Mark "X" in column 2-a for each pollutant you know or have reason to believe is present. Mark "X" in column 2-b for each pollutant you believe to be absent. If you mark column 2a for any pollutant which is limited either directly, or indirectly but expressly, in an effluent limitations guideline, you must provide the results of at least one analysis for that pollutant. For other pollutants for which you mark column 2a, you must provide quantitative data or an explanation of their presence in your discharge. Complete one table for each outfall. See the instructions for additional details and requirements.

1. POLLUTANT AND CAS NO. (if available)	2. MARK 'X'		3. EFFLUENT						4. UNITS		5. INTAKE (optional)			
	a. BELIEVED PRESENT	b. BELIEVED ABSENT	a. MAXIMUM DAILY VALUE		b. MAXIMUM 30 DAY VALUE (if available)		c. LONG TERM AVG. VALUE (if available)		d. NO. OF ANALYSES	a. CONCENTRATION	b. MASS	a. LONG TERM AVERAGE VALUE		b. NO. OF ANALYSES
			(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS				(1) CONCENTRATION	(2) MASS	
a. Bromide (24959-67-9)	X													
b. Chlorine, Total Residual	X													
c. Color	X													
d. Fecal Coliform	X													
e. Fluoride (16984-48-8)	X													
f. Nitrate-Nitrite (as N)	X													

Koppers001619



ITEM V-B CONTINUED FROM FRONT

1. POLLUTANT AND CAS NO. (if available)	2. MARK 'X'		3. EFFLUENT						4. UNITS		5. INTAKE (optional)			
	a. RECEIVED PRE-SENT	b. RECEIVED AB-SENT	a. MAXIMUM DAILY VALUE		b. MAXIMUM 30 DAY VALUE (if available)		c. LONG TERM AVG. VALUE (if available)		d. NO. OF ANALYSES	a. CONCENTRATION	b. MASS	a. LONG TERM AVERAGE VALUE		b. NO. OF ANALYSES
			(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS				(1) CONCENTRATION	(2) MASS	
g. Nitrogen, Total Organic (as N)	X													
h. Oil and Grease	X													
i. Phosphorus (as P), Total (7723-14-0)	X													
j. Radioactivity														
(1) Alpha, Total	X		N/A											
(2) Beta, Total	X		N/A											
(3) Radium, Total	X		N/A											
(4) Radium 226, Total	X		N/A											
k. Sulfate (as SO <sub>4</sub> ) (14808-79-8)	X													
l. Sulfide (as S)	X													
m. Sulfite (as SO <sub>3</sub> ) (14265-45-3)	X													
n. Surfactants	X													
o. Aluminum, Total (7429-90-5)	X													
p. Barium, Total (7440-39-3)	X													
q. Boron, Total (7440-42-8)	X													
r. Cobalt, Total (7440-48-4)	X													
s. Iron, Total (7439-89-6)	X													
t. Magnesium, Total (7439-95-4)	X													
u. Molybdenum, Total (7439-98-7)	X													
v. Manganese, Total (7439-96-5)	X													
w. Tin, Total (7440-31-5)	X													
x. Titanium, Total (7440-32-6)	X													

} NO ANALYSES REQUIRED

CONTINUED FROM PAGE 8 OF FORM 8-90

**PART C** If you are a primary industry and this outfall contains process wastewater, refer to Table 2c-2 in the instructions to determine which of the GC/MS fractions you must test for. Mark "X" in column 2-a for all such GC/MS fractions that apply to your industry and for ALL toxic metals, cyanides, and total phenols. If you are not required to mark column 2-a (secondary industries, nonprocess wastewater outfalls, and nonrequired GC/MS fractions), mark "X" in column 2-b for each pollutant you know or have reason to believe is present. Mark "X" in column 2-c for each pollutant you believe is absent. If you mark column 2a for any pollutant, you must provide the results of at least one analysis for that pollutant. If you mark column 2b for any pollutant, you must provide the results of at least one analysis for that pollutant if you know or have reason to believe it will be discharged in concentrations of 10 ppb or greater. If you mark column 2b for acrolein, acrylonitrile, 2,4 dinitrophenol, or 2-methyl-4, 6 dinitrophenol, you must provide the results of at least one analysis for each of these pollutants which you know or have reason to believe that you discharge in concentrations of 100 ppb or greater. Otherwise, for pollutants for which you mark column 2b, you must either submit at least one analysis or briefly describe the reasons the pollutant is expected to be discharged. Note that there are 7 pages to this part; please review each carefully. Complete one table (all 7 pages) for each outfall. See instructions for additional details and requirements.

1. POLLUTANT AND CAS NUMBER (if available)	2. MARK 'X'			3. EFFLUENT						d. NO. OF ANALYSES	4. UNITS		5. INTAKE (optional)		
	a. TESTING REQUIRED	b. BELIEVED PRESENT	c. BELIEVED ABSENT	a. MAXIMUM DAILY VALUE		b. MAXIMUM 30 DAY VALUE (if available)		c. LONG TERM AVRG. VALUE (if available)			a. CONCENTRATION	b. MASS	a. LONG TERM AVERAGE VALUE		b. NO. OF ANALYSES
				(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS				(1) CONCENTRATION	(2) MASS	
<b>METALS, CYANIDE, AND TOTAL PHENOLS</b>															
1M. Antimony, Total (7440-36-0)	X														
2M. Arsenic, Total (7440-38-2)	X														
3M. Beryllium, Total (7440-41-7)	X														
4M. Cadmium, Total (7440-43-9)	X														
5M. Chromium, Total (7440-47-3)	X														
6M. Copper, Total (7440-50-8)	X														
7M. Lead, Total (7439-92-1)	X														
8M. Mercury, Total (7439-97-6)	X														
9M. Nickel, Total (7440-02-0)	X														
10M. Selenium, Total (7782-49-2)	X														
11M. Silver, Total (7440-22-4)	X														
12M. Thallium, Total (7440-28-0)	X														
13M. Zinc, Total (7440-66-6)	X														
14M. Cyanide, Total (57-12-5)	X														
15M. Phenols, Total	X														
<b>DIOXIN</b>															
2,3,7,8-Tetrachlorodibenzo-P-Dioxin (1764-01-6)	X			DESCRIBE RESULTS											

CONTINUED FROM THE FRONT

1. POLLUTANT AND CAS NUMBER (if available)	2. MARK 'X'			3. EFFLUENT						4. UNITS		5. INTAKE (optional)			
	a. TESTING RE- QUIR- ED	b. BE- LIEVED PRE- SENT	c. BE- LIEVED AB- SENT	8. MAXIMUM DAILY VALUE		b. MAXIMUM 30 DAY VALUE (if available)		c. LONG TERM AVG. VALUE (if available)		d. NO. OF ANAL- YSES	8. CONCEN- TRATION	b. MASS	a. LONG TERM AVERAGE VALUE		b. NO. OF ANAL- YSES
				(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS				(1) CONCENTRATION	(2) MASS	
GC/MS FRACTION - VOLATILE COMPOUNDS															
1V. Acrolein (107-02-8)	X														
2V. Acrylonitrile (107-13-1)	X														
3V. Benzene (71-43-2)	X														
4V. Bis (Chloro- methyl) Ether (542-88-1)	X														
5V. Bromoform (75-25-2)	X														
6V. Carbon Tetrachloride (56-23-5)	X														
7V. Chlorobenzene (108-90-7)	X														
8V. Chlorodi- bromomethane (124-48-1)	X														
9V. Chloroethane (75-00-3)	X														
10V. 2-Chloro- ethylvinyl Ether (110-75-8)	X														
11V. Chloroform (67-66-3)	X														
12V. Dichloro- bromomethane (75-27-4)	X														
13V. Dichloro- difluoromethane (75-71-8)	X														
14V. 1,1-Dichloro- ethane (75-34-3)	X														
15V. 1,2-Dichloro- ethane (107-06-2)	X														
16V. 1,1-Dichloro- ethylene (75-35-4)	X														
17V. 1,2-Dichloro- propane (78-87-5)	X														
18V. 1,3-Dichloro- propylene (542-75-6)	X														
19V. Ethylbenzene (100-41-4)	X														
20V. Methyl Bromide (74-83-9)	X														
21V. Methyl Chloride (74-87-3)	X														

CONTINUED FROM PAGE V-4

1. POLLUTANT AND CAS NUMBER (if available)	2. MARK 'X'			3. EFFLUENT						4. UNITS		5. INTAKE (optional)			
	a. TEST- ING RE- QUIR- ED	b. BE- LIEVED PRE- SENT	c. BE- LIEVED AB- SENT	a. MAXIMUM DAILY VALUE		b. MAXIMUM 30 DAY VALUE (if available)		c. LONG TERM AVG. VALUE (if available)		d. NO. OF ANAL- YSES	a. CONCEN- TRATION	b. MASS	b. LONG TERM AVERAGE VALUE		d. NO. OF ANAL- YSES
				(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS				(1) CONCEN- TRATION	(2) MASS	
<b>GC/MS FRACTION - VOLATILE COMPOUNDS (continued)</b>															
22V. Methylene Chloride (75-09-2)	X														
23V. 1,1,2,2-Tetra- chloroethane (79-34-5)	X														
24V. Tetrachloro- ethylene (127-18-4)	X														
25V. Toluene (108-88-3)	X														
26V. 1,2-Trans- Dichloroethylene (156-60-5)	X														
27V. 1,1,1-Tri- chloroethane (71-55-6)	X														
28V. 1,1,2-Tri- chloroethane (79-00-5)	X														
29V. Trichloro- ethylene (79-01-6)	X														
30V. Trichloro- fluoromethane (75-69-4)	X														
31V. Vinyl Chloride (75-01-4)	X														
<b>GC/MS FRACTION - ACID COMPOUNDS</b>															
1A. 2-Chlorophenol (95-57-8)	X														
2A. 2,4-Dichloro- phenol (120-83-2)	X														
3A. 2,4-Dimethyl- phenol (105-67-9)	X														
4A. 4,6-Dinitro-O- Cresol (534-52-1)	X														
5A. 2,4-Dinitro- phenol (51-28-5)	X														
6A. 2-Nitrophenol (88-75-5)	X														
7A. 4-Nitrophenol (100-02-7)	X														
8A. P-Chloro-M- Cresol (59-50-7)	X														
9A. Pentachloro- phenol (87-86-5)	X														
10A. Phenol (108-95-2)	X														
11A. 2,4,6-Tri- chlorophenol (88-06-2)	X														

CONTINUED FROM THE FRONT

1. POLLUTANT AND CAS NUMBER (if available)	2. MARK 'X'			3. EFFLUENT						4. UNITS		5. INTAKE (optional)			
	A. TEST ING RE- QUIR- ED	B. BE- LIEVED PRE- SENT	C. BE- LIEVED AD- SENT	B. MAXIMUM DAILY VALUE		D. MAXIMUM 30 DAY VALUE (if available)		C. LONG TERM AVRG. VALUE (if available)		D. NO. OF ANAL- YSES	B. CON- CENTR- ATION	D. MASS	B. LONG TERM AVERAGE VALUE		D. NO. OF ANAL- YSES
				(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS				(1) CONCENTRATION	(2) MASS	
GC/MS FRACTION - BASE/NEUTRAL COMPOUNDS															
1B. Acenaphthene (83-32-9)	X														
2B. Acenaphthylene (208-96-8)	X														
3B. Anthracene (120-12-7)	X														
4B. Benzidine (92-87-5)	X														
5B. Benzo (a) Anthracene (56-55-3)	X														
6B. Benzo (a) Pyrene (50-32-8)	X														
7B. 3,4-Benzo- fluoranthene (205-99-2)	X														
8B. Benzo (ghi) Perylene (191-24-2)	X														
9B. Benzo (k) Fluoranthene (207-08-9)	X														
10B. Bis (2-Chloro- ethoxy) Methane (111-91-1)	X														
11B. Bis (2-Chloro- ethyl) Ether (111-44-4)	X														
12B. Bis (2-Chloroisopropyl) Ether (102-60-1)	X														
13B. Bis (2-Ethyl- hexyl) Phthalate (117-81-7)	X														
14B. 4-Bromo- phenyl Phenyl Ether (101-55-3)	X														
15B. Butyl Benzyl Phthalate (85-68-7)	X														
16B. 2-Chloro- naphthalene (91-58-7)	X														
17B. 4-Chloro- phenyl Phenyl Ether (7005-72-3)	X														
18B. Chrysene (218-01-9)	X														
19B. Dibenzo (a,h) Anthracene (53-70-3)	X														
20B. 1,2-Dichloro- benzene (95-50-1)	X														
21B. 1,3-Dichloro- benzene (541-73-1)	X														

CONTINUED FROM PAGE V-6

1. POLLUTANT AND CAS NUMBER (if available)	2. MARK 'X'			3. EFFLUENT						4. UNITS		5. INTAKE (optional)			
	A. TEST- ING RE- QUIR- ED	B. BE- LIEVED PRE- SENT	C. BE- LIEVED AB- SENT	8. MAXIMUM DAILY VALUE		9. MAXIMUM 30 DAY VALUE (if available)		10. LONG TERM AVG. VALUE (if available)		d. NO. OF ANAL- YSES	a. CONCENTRATION	b. MASS	11. LONG TERM AVERAGE VALUE		b. NO. OF ANAL- YSES
				(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS				(1) CONCENTRATION	(2) MASS	
GC/MS FRACTION - BASE/NEUTRAL COMPOUNDS (continued)															
22B. 1,4-Dichloro- benzene (106-46-7)	X														
23B. 3,3'-Dichloro- benzidine (91-94-1)	X														
24B. Diethyl Phthalate (84-66-2)	X														
25B. Dimethyl Phthalate (131-11-3)	X														
26B. Di-N-Butyl Phthalate (84-74-2)	X														
27B. 2,4-Dinitro- toluene (121-14-2)	X														
28B. 2,6-Dinitro- toluene (606-20-2)	X														
29B. Di-N-Octyl Phthalate (117-84-0)	X														
30B. 1,2-Diphenyl- hydrazine (as Azo- benzene) (122-66-7)	X														
31B. Fluoranthene (206-44-0)	X														
32B. Fluorene (86-73-7)	X														
33B. Hexachlorobenzene (118-74-1)	X														
34B. Hexa- chlorobutadiene (87-68-3)	X														
35B. Hexachloro- cyclopentadiene (77-47-4)	X														
36B. Hexachloro- ethane (67-72-1)	X														
37B. Indeno (1,2,3-cd) Pyrene (193-39-5)	X														
38B. Isophorone (78-59-1)	X														
39B. Naphthalene (91-20-3)	X														
40B. Nitrobenzene (98-95-3)	X														
41B. N-Nitro- sodimethylamine (62-75-9)	X														
42B. N-Nitrosodi- N-Propylamine (621-64-7)	X														

CONTINUED FROM THE FRONT

1. POLLUTANT AND CAS NUMBER (if available)	2. MARK 'X'			3. EFFLUENT						4. UNITS		5. INTAKE (optional)			
	a. TEST RE-QUIR-ED	b. BE-LIEVED PRE-SENT	c. BE-LIEVED AB-SENT	8. MAXIMUM DAILY VALUE		b. MAXIMUM 30 DAY VALUE (if available)		c. LONG TERM AVG. VALUE (if available)		d. NO. OF ANAL- YSES	a. CON- CENTRATION	b. MASS	8. LONG TERM AVERAGE VALUE		b. NO. OF ANAL- YSES
				(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS				(1) CONCENTRATION	(2) MASS	
GC/MS FRACTION - BASE/NEUTRAL COMPOUNDS (continued)															
43B. N-Nitro-sodiphenylamine (86-30-6)	X														
44B. Phenanthrene (85-01-8)	X														
45B. Pyrene (129-00-0)	X														
46B. 1,2,4 - Tri-chlorobenzene (120-82-1)	X														
GC/MS FRACTION - PESTICIDES															
1P. Aldrin (309-00-2)	X														
2P. $\alpha$ -BHC (319-84-6)	X														
3P. $\beta$ -BHC (319-85-7)	X														
4P. $\gamma$ -BHC (58-89-9)	X														
5P. $\delta$ -BHC (319-86-8)	X														
6P. Chlordane (57-74-9)	X														
7P. 4,4'-DDT (50-29-3)	X														
8P. 4,4'-DDE (72-55-9)	X														
9P. 4,4'-DDD (72-54-8)	X														
10P. Dieldrin (60-57-1)	X														
11P. $\alpha$ -Endosulfan (115-29-7)	X														
12P. $\beta$ -Endosulfan (115-29-7)	X														
13P. Endosulfan Sulfate (1031-07-8)	X														
14P. Endrin (72-20-8)	X														
15P. Endrin Aldehyde (7421-93-4)	X														
16P. Heptachlor (76-44-8)	X														

CONTINUED FROM PAGE V-8

1. POLLUTANT AND CAS NUMBER (if available)	2. MARK 'X'			3. EFFLUENT						4. NO. OF ANAL- YSES	4. UNITS		5. INTAKE (optional)		
	a. TEST ING RE- QUIR- ED	b. BE- LIEVED PRE- SENT	c. BE- LIEVED AB- SENT	a. MAXIMUM DAILY VALUE		b. MAXIMUM 30 DAY VALUE (if available)		c. LONG TERM AVRG. VALUE (if available)			a. CON- CENTR- ATION	b. MASS	b. LONG TERM AVERAGE VALUE		d. NO. OF ANAL- YSES
				(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS				(1) CONCENTRATION	(2) MASS	
GC/MS FRACTION — PESTICIDES (continued)															
17P. Heptachlor Epoxide (1024-57-3)	X														
18P. PCB-1242 (53469-21-9)	X														
19P. PCB-1254 (11097-69-1)	X														
20P. PCB-1221 (11104-28-2)	X														
21P. PCB-1232 (11141-16-5)	X														
22P. PCB-1248 (12672-29-6)	X														
23P. PCB-1260 (11096-82-5)	X														
24P. PCB-1016 (12674-11-2)	X														
25P. Toxaphene (8001-35-2)	X														

PAGE V-9



File

PERMITTEE NAME/ADDRESS (Include Facility Name/Location if Different)  
NAME Koppers Industries, Inc.  
ADDRESS 7540 NW Saint Helens Rd.  
Portland, Or 97210

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)  
DISCHARGE MONITORING REPORT (DMR)

Form Approved  
OMB No. 2040-0004

PERMIT NUMBER

012  
DISCHARGE NUMBER

47430  
101642

FACILITY NW Terminal  
LOCATION Multnomah County

MONITORING PERIOD						
YEAR	MO	DAY		YEAR	MO	DAY
FROM 00	12	01		TO 00	12	31

NOTE: Read Instructions before completing this form.

PARAMETER		QUANTITY OR LOADING			QUANTITY OR CONCENTRATION				NO. EX	FREQUENCY OF ANALYSIS	SAMPLE TYPE
		AVERAGE	MAXIMUM	UNITS	MINIMUM	AVERAGE	MAXIMUM	UNITS			
FLOW	SAMPLE MEASUREMENT	14,194							0	N/A	EST.
	PERMIT REQUIREMENT										
TEMP	SAMPLE MEASUREMENT				4.1	5.5	6.4	C	0	1/7	GRAB
	PERMIT REQUIREMENT				N/A	N/A	N/A				
pH	SAMPLE MEASUREMENT				6.2	6.3	6.4	SU	0	1/7	GRAB
	PERMIT REQUIREMENT				6.0		9.0				
OIL & GREASE	SAMPLE MEASUREMENT				N.D.	1.1	2.2	MG/L	0	1/7	GRAB
	PERMIT REQUIREMENT				0	10	15				
PHENOLS	SAMPLE MEASUREMENT				N.D.	N.D.	N.D.	MG/L	0	1/30	GRAB
	PERMIT REQUIREMENT				0	.5	.7				
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER

R.D. Collins, VP

TYPED OR PRINTED

I Certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Amos B. Kamerer, Plt. MGR

SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT

TELEPHONE

DATE

503 286-3681 01 01 03  
AREA CODE NUMBER YEAR MO DAY

COMMENTS AND EXPLANATION OF ANY VIOLATIONS (Reference all attachments here)

cc: J. Holtrop - City of Portland, TI Self - KII, M.A. Cilley - KII

13:55 1900, 12-05 286 3681 FROM : KOPPERS INDUSTRIES, INC.

Koppers001629

MITTEE NAME/ADDRESS (Include Facility Name/Location if Different)  
Koppers Industries, Inc.  
RESS 7540 NW Saint Helens Road  
Portland, Oregon 97210  
ILITY NW Terminal  
ATION Multnomah County

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)  
DISCHARGE MONITORING REPORT (DMR)

PERMIT NUMBER	011 DISCHARGE NUMBER
---------------	-------------------------

47430  
101642

Form Approved,  
OMB No. 2040-0004

MONITORING PERIOD						
YEAR	MO	DAY	TO	YEAR	MO	DAY
00	11	01		00	11	30

NOTE: Read instructions before completing this form.

PARAMETER		QUANTITY OR LOADING			QUANTITY OR CONCENTRATION				NO. EX	FREQUENCY OF ANALYSIS	SAMPLE TYPE
		AVERAGE	MAXIMUM	UNITS	MINIMUM	AVERAGE	MAXIMUM	UNITS			
FLOW	SAMPLE MEASUREMENT	7,333		GPD					0	N/A	EST.
	PERMIT REQUIREMENT										
TEMP	SAMPLE MEASUREMENT				7.5	7.6	7.8	C	0	1/7	GRAB
	PERMIT REQUIREMENT				N/A	N/A	N/A				
pH	SAMPLE MEASUREMENT				6.4	6.5	6.7	SU	0	1/7	GRAB
	PERMIT REQUIREMENT				6.0		9.0				
Oil & GREASE	SAMPLE MEASUREMENT				N.D.	N.D.	N.D.	MG/L	0	1/7	GRAB
	PERMIT REQUIREMENT				0	10	15				
PHENOLS	SAMPLE MEASUREMENT				N.D.	N.D.	N.D.	MG/L	0	1/30	GRAB
	PERMIT REQUIREMENT				0	.5	.7				
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER

D Collins, VP

TYPED OR PRINTED

I Certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Signature of Principal Executive Officer or Authorized Agent

SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT

TELEPHONE

DATE

503	286-3681	00	12	06
AREA CODE	NUMBER	YEAR	MO	DAY

MENTS AND EXPLANATION OF ANY VIOLATIONS (Reference all attachments here)

cc: J. Holtrop - City of Portland, TI Self - KII, MA Cilley - KII



# CERTIFICATE OF ANALYSIS

## PARTIAL REPORT

CLIENT: KOPPERS INDUSTRIES, INC.  
7540 NW ST. HELENS ROAD  
PORTLAND, OR 97210-3663

PHONE: (503) 286-3681  
FAX: (503) 285-2931

DATE SUBMITTED: 11/27/2000

PROJECT NAME: STORMWATERS

CI SAMPLE	CLIENTS ID#	DATE	TIME	MATRIX	DESCRIPTION
02176-001		11/27/2000	0900	Water	Stormwater Tanks
02176-001		11/27/2000	0900	Water	Stormwater Tanks

REPORT DATE: 11/28/2000      REPORT NUMBER: 02176      PAGE: 1 OF 1

SAMPLE	ANALYSIS	PARAMETER	RESULT	UNIT	DETECTION LIMIT	ANALYST
Stormwater Tanks      SAMPLE ID:						
02176-001	O & G TOTAL (HEM) EPA 1664	TOTAL OIL AND GREASE	ND	mg/L	2	Gordon L. 11/29/2000
Stormwater Tanks      SAMPLE ID:						
02176-001	PHENOLS, TOTAL EPA 420.1	TOTAL RECOVERABLE PHENOLICS	ND	PPM	0.05	Jeremy B. 11/28/2000

**\*\* Draft Report \*\***

Data in this report may not be complete. This report has not undergone final quality assurance review

03:39 1900.11-01 286 3681 FROM : KOPPERS INDUSTRIES, INC.

ERMITTEE NAME/ADDRESS (Include Facility Name/Location if Different)  
NAME Koppers Industries, Inc.  
ADDRESS 7540 NW Saint Helens Rd.  
Portland, Or 97210

ACTIVITY NW Terminal  
LOCATION Multnomah County

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)  
DISCHARGE MONITORING REPORT (DMR)  
(17-19)

PERMIT NUMBER

DISCHARGE NUMBER

47430  
101642

Form Approved.  
OMB No. 2040-0004  
Approval expires 05-31-98

MONITORING PERIOD

YEAR	MO	DAY	YEAR	MO	DAY
00	10	01	00	10	31

FROM (20-21) (22-23) (24-26) TO (28-27) (28-29) (30-31)

NOTE: Read instructions before completing this form.

PARAMETER (32-37)		(3 Card Only) QUANTITY OR LOADING (45-53)			(4 Card Only) QUANTITY OR CONCENTRATION (38-45) (46-53) (54-61)				NO. EX (62-63)	FREQUENCY OF ANALYSIS (64-68)	SAMPLE TYPE (69-70)
		AVERAGE	MAXIMUM	UNITS	MINIMUM	AVERAGE	MAXIMUM	UNITS			
FLOW	SAMPLE MEASUREMENT	14,194		GPD					0	n/A	EST.
	PERMIT REQUIREMENT										
TEMP	SAMPLE MEASUREMENT				13.9	15.5	17.1	C	0	1/7	GRAB
	PERMIT REQUIREMENT				N/A	N/A	N/A				
pH	SAMPLE MEASUREMENT				6.3	6.5	6.7	SU	0	1/7	GRAB
	PERMIT REQUIREMENT				6.0		9.0				
OIL & GREASE	SAMPLE MEASUREMENT				N.D.	1.4	2.7	MG/L	0	1/7	GRAB
	PERMIT REQUIREMENT				0	10	15				
PHENOLS	SAMPLE MEASUREMENT				.06	.06	.06	MG/L	0	1/30	GRAB
	PERMIT REQUIREMENT				0	.5	.7				
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER	I CERTIFY UNDER PENALTY OF LAW THAT I HAVE PERSONALLY EXAMINED AND AM FAMILIAR WITH THE INFORMATION SUBMITTED HEREIN; AND BASED ON MY INQUIRY OF THOSE INDIVIDUALS IMMEDIATELY RESPONSIBLE FOR OBTAINING THE INFORMATION, I BELIEVE THE SUBMITTED INFORMATION IS TRUE, ACCURATE AND COMPLETE. I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION, INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT. SEE 18 U.S.C. § 1001 AND 33 U.S.C. § 1318. (Penalties under these statutes may include fines up to \$10,000 and/or maximum imprisonment of between 6 months and 5 years.)	TELEPHONE		DATE		
R.D. Collins, SVP TYPED OR PRINTED		503	286-3681	00	11	01
	SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT	AREA CODE	NUMBER	YEAR	MO	DAY

COMMENTS AND EXPLANATION OF ANY VIOLATIONS (Reference all attachments here)

Fourth Quater PAH results are attached

cc: J. Holtrop - City of Portland, T.I. Self - KII, M.A. Cilley - KII



# CERTIFICATE OF ANALYSIS

CLIENT: KOPPERS INDUSTRIES, INC.  
7540 NW ST. HELENS ROAD  
PORTLAND OR 97210-3663

PHONE: (503) 286-3681  
FAX: (503) 285-2831

DATE SUBMITTED: 10/10/20

PROJECT NAME: STORM WATER TANKS

CI SAMPLE	CLIENTS ID#	DATE	TIME	MATRIX	DESCRIPTION
01943-001		10/10/2000	1000	Water	STORM WATER TANK WATER GRAB SAMPLE

REPORT DATE: 10/12/2000      REPORT NUMBER: 01943      PAGE: 1 OF 1

SAMPLE	ANALYSIS	PARAMETER	RESULTS	UNITS	DETECTION	
					LIMIT	ANALYST
STORM WATER TANK WATER GRAB SAMPLE						
01943-001	O & G TOTAL (HEM) EPA 1664	TOTAL OIL AND GREASE	ND	mg/L	2	Gordon L 10/12/2000
STORM WATER TANK WATER GRAB SAMPLE						
01943-001	PHENOLS, TOTAL EPA 420.1	TOTAL RECOVERABLE PHENOLICS	0.06	mg/L	0.05	Jeremy B 10/11/2000
STORM WATER TANK WATER GRAB SAMPLE						
01943-001	PNAH 2 EPA 625 (SIM)	ACENAPHTHENE	0.60	ug/L	0.05	Dave M 10/11/2000
		ACENAPHTHYLENE	0.14	ug/L	0.05	
		ANTHRACENE	0.66	ug/L	0.05	
		BENZO(A)ANTHRACENE	2.1	ug/L	0.05	
		BENZO(A)PYRENE	2.8	ug/L	0.2	
		BENZO(B)FLUORANTHENE	3.4	ug/L	0.2	
		BENZO(GHI)PERYLENE	2.9	ug/L	0.5	
		BENZO(K)FLUORANTHENE	3.4	ug/L	0.2	
		CHRYSENE	3.3	ug/L	0.05	
		DIBENZO(AH)ANTHRACENE	1.5	ug/L	0.3	
		FLUORANTHENE	4.1	ug/L	0.05	
		FLUORENE	ND	ug/L	0.5	
		INDENO(1,2,3-CD)PYRENE	2.7	ug/L	0.4	
		NAPHTHALENE	ND	ug/L	0.5	
		PHENANTHRENE	1.4	ug/L	0.05	
		PYRENE	3.5	ug/L	0.05	
		SURROGATE	102	% RECOVERY 50%-150%		

REVIEWED BY: 

Martin Little - Quality Manager

COLUMBIA INSPECTION, INC. 7133 N. Lombard, Portland, OR 97203 Phone: (503) 286-9484 Fax: (503) 286-5366 E-mail: lab@columbiainspection.com

FROM : KOPPERS INDUSTRIES, INC. 286 3681 1900.10-04 09:15 #481 P.01/01

PERMITTEE NAME/ADDRESS (Include Facility Name/Location if Different)

NAME Koppers Industries, Inc.  
ADDRESS 7540 NW Saint Helens Road  
Portland, OR 97210

FACILITY NW Terminal  
LOCATION Multnomah County

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)  
DISCHARGE MONITORING REPORT (DMR)  
(2-16) (17-19)

PERMIT NUMBER	DISCHARGE NUMBER
	009

47430  
101642

Form Approved.  
OMB No. 2040-0004  
Approval expires 05-31-98

MONITORING PERIOD					
FROM			TO		
YEAR	MO	DAY	YEAR	MO	DAY
00	09	01	00	09	30
(20-21) (22-23) (24-25)			(26-27) (28-29) (30-31)		

NOTE: Read instructions before completing this form.

PARAMETER (32-37)		(3 Card Only) QUANTITY OR LOADING (46-53)			(4 Card Only) QUANTITY OR CONCENTRATION (54-61)				NO. EX. (62-63)	FREQUENCY OF ANALYSIS (64-68)	SAMPLE TYPE (69-70)
		AVERAGE	MAXIMUM	UNITS	MINIMUM	AVERAGE	MAXIMUM	UNITS			
FLOW	SAMPLE MEASUREMENT	7333		GPD					0	N/A	EST.
	PERMIT REQUIREMENT										
TEMP	SAMPLE MEASUREMENT				20.2	20.9	21.5	C	0	1/7	GRAB.
	PERMIT REQUIREMENT				N/A	N/A	N/A				
pH	SAMPLE MEASUREMENT				6.9	6.9	6.9	SU	0	1/7	GRAB
	PERMIT REQUIREMENT				6.0		9.0				
OIL & GREASE	SAMPLE MEASUREMENT				3.1	3.1	3.1	MG/L	0	1/7	GRAB
	PERMIT REQUIREMENT				0	10	15				
PHENOLS	SAMPLE MEASUREMENT				.18	.18	.18	MG/L	0	1/30	GRAB
	PERMIT REQUIREMENT				0	.5	.7				
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER

R.D. Collins, VP

TYPED OR PRINTED

I CERTIFY UNDER PENALTY OF LAW THAT I HAVE PERSONALLY EXAMINED AND AM FAMILIAR WITH THE INFORMATION SUBMITTED HEREON, AND BASED ON MY INQUIRY OF THOSE INDIVIDUALS IMMEDIATELY RESPONSIBLE FOR OBTAINING THE INFORMATION, I BELIEVE THE SUBMITTED INFORMATION IS TRUE, ACCURATE AND COMPLETE. I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION, INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT. SEE 18 U.S.C. 1 1001 AND 33 U.S.C. 1 1319. Penalties under these statutes may include fines up to \$10,000 and/or maximum imprisonment of between 6 months and 5 years.

SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT

TELEPHONE

DATE

503 | 286-3681 | 00 | 10 | 04  
AREA CODE | NUMBER | YEAR | MO | DAY

COMMENTS AND EXPLANATION OF ANY VIOLATIONS (Reference all attachments here)

Third Quarter PAH results are attached.

cc: J. Holtrop - City of Portland, T.I. Self - KII, M.A. Cilley - KII

Koppers001633



# CERTIFICATE OF ANALYSIS

CLIENT: KOPPERS INDUSTRIES, INC.  
7540 NW ST. HELENS ROAD  
PORTLAND OR 97210-3663

PHONE: (503) 286-3681  
FAX: (503) 285-2831

DATE SUBMITTED: 09/12/20

PROJECT NAME: STORM WATER ANALYSIS

CI SAMPLE	CLIENTS ID#	DATE	TIME	MATRIX	DESCRIPTION
01772-001		09/12/2000	1000	Water	STORM WATER TANK GRAB WATER SAMPLE

REPORT DATE: 09/14/2000      REPORT NUMBER: 01772      PAGE: 1 OF 1

SAMPLE	ANALYSIS	PARAMETER	RESULTS	UNITS	DETECTION LIMIT	ANALYST
STORM WATER TANK GRAB WATER SAMPLE		SAMPLE ID:				
01772-001	O & G TOTAL (HEM) EPA 1664	TOTAL OIL AND GREASE	3.1	mg/L	2	Gordon L 09/12/2000
STORM WATER TANK GRAB WATER SAMPLE		SAMPLE ID:				
01772-001	PHENOLS, TOTAL EPA 420.1	TOTAL RECOVERABLE PHENOLICS	0.18	mg/L	0.05	Jeremy B 09/14/2000
STORM WATER TANK GRAB WATER SAMPLE		SAMPLE ID:				
01772-001	FNH 2 EPA 625 (SIM)	ACENAPHTHENE	20	ug/L	0.05	Jacob F. 09/14/2000
		ACENAPHTHYLENE	5.1	ug/L	0.05	
		ANTHRACENE	2.8	ug/L	0.05	
		BENZO(A)ANTHRACENE	2.0	ug/L	0.05	
		BENZO(A)PYRENE	1.7	ug/L	0.2	
		BENZO(B)FLUORANTHENE	1.8	ug/L	0.2	
		BENZO(GHI)PERYLENE	1.2	ug/L	0.5	
		BENZO(K)FLUORANTHENE	1.6	ug/L	0.2	
		CHRYSENE	2.8	ug/L	0.05	
		DIBENZO(AH)ANTHRACENE	0.74	ug/L	0.3	
		FLUORANTHENE	8.2	ug/L	0.05	
		FLUORENE	8.1	ug/L	0.05	
		INDENO(1,2,3-CD)PYRENE	1.0	ug/L	0.4	
		NAPHTHALENE	1.8	ug/L	0.05	
		PHENANTHRENE	0.91	ug/L	0.05	
		PYRENE	7.0	ug/L	0.05	
		SURROGATE	85%	RECOVERY 50%-150%		

RECEIVED

SEP 13 2000

KOPPERS IND. INC.  
PORTLAND OR

REVIEWED BY:

Martin Little - Quality Manager

Koppers001635

FROM : KOPPERS INDUSTRIES, INC.

286 3681

1900.09-08

14:12

#414 P.01/01

MITTEE NAME/ADDRESS (Include Facility Name/Location (V/D/area))  
ME Koppers Industries, Inc.

ADDRESS 7540 NW Saint Helens Road  
Portland, OR 97210

CITY NW Terminal

CATION Multnomah County

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)  
DISCHARGE MONITORING REPORT (DMR)  
(2-18)

PERMIT NUMBER

008

DISCHARGE NUMBER

47430


101642

MONITORING PERIOD

FROM YEAR MO DAY TO YEAR MO DAY  
(20-21) (22-23) (24-25) (26-27) (28-29) (30-31)  
00 08 01 00 08 31

Form Approved.  
OMB No. 2040-0004  
Approval expires 05-31-88

NOTE: Read instructions before completing this form.

PARAMETER (32-37)		(3 Card Only) QUANTITY OR LOADING (46-53)			(4 Card Only) QUANTITY OR CONCENTRATION (54-61)				NO. EX (62-63)	FREQUENCY OF ANALYSIS (64-66)	SAMPLE TYPE (69-70)
		AVERAGE	MAXIMUM	UNITS	MINIMUM	AVERAGE	MAXIMUM	UNITS			
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
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	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER

D Collins, VP

TYPED OR PRINTED

I CERTIFY UNDER PENALTY OF LAW THAT I HAVE PERSONALLY EXAMINED AND AM FAMILIAR WITH THE INFORMATION SUBMITTED HEREIN; AND BASED ON MY INQUIRY OF THOSE INDIVIDUALS IMMEDIATELY RESPONSIBLE FOR OBTAINING THE INFORMATION, I BELIEVE THE SUBMITTED INFORMATION IS TRUE, ACCURATE AND COMPLETE. I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION, INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT. SEE 18 U.S.C. § 1001 AND 33 U.S.C. § 1918. (Penalties under these statutes may include fines up to \$10,000 and/or maximum imprisonment of between 6 months and 5 years.)

Amos S. Kamerer, Plt. Mgr.

SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT

TELEPHONE

DATE

503 286-3681

AREA CODE

NUMBER

00

09

08

YEAR

MO

DAY

MENTS AND EXPLANATION OF ANY VIOLATIONS (Reference all attachments here)

Nothing to report, there were no discharges made during the month.

cc: J. Holtrop-City of Portland, T.I. Self-KII, M.A. Cilley-KII



PERMITTEE NAME/ADDRESS (Include Facility Name/Location if Different)

NAME Koppers Industries, Inc.

ADDRESS 7540 NW Saint Helens Road  
Portland, OR 97210

CITY NW Terminal

COUNTY Multnomah County

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)  
DISCHARGE MONITORING REPORT (DMR)

PERMIT NUMBER

DISCHARGE NUMBER

47430  
101642

MONITORING PERIOD

FROM YEAR MO DAY TO YEAR MO DAY  
00 07 01 00 07 31  
(20-21) (22-23) (24-25) (26-27) (28-29) (30-31)

NOTE: Read instructions before completing this form.

PARAMETER (32-37)	X	(3 Card Only) QUANTITY OR LOADING (46-53)			(4 Card Only) QUANTITY OR CONCENTRATION (54-61)				NO. EX (62-63)	FREQUENCY OF ANALYSIS (64-68)	SAMPLE TYPE (69-70)
		AVERAGE	MAXIMUM	UNITS	MINIMUM	AVERAGE	MAXIMUM	UNITS			
SAMPLE MEASUREMENT											
PERMIT REQUIREMENT											
SAMPLE MEASUREMENT											
PERMIT REQUIREMENT											
SAMPLE MEASUREMENT											
PERMIT REQUIREMENT											
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PERMIT REQUIREMENT											
SAMPLE MEASUREMENT											
PERMIT REQUIREMENT											
SAMPLE MEASUREMENT											
PERMIT REQUIREMENT											

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER

R.D. Collins, VP

TYPED OR PRINTED

I CERTIFY UNDER PENALTY OF LAW THAT I HAVE PERSONALLY EXAMINED AND AM FAMILIAR WITH THE INFORMATION SUBMITTED HEREIN; AND BASED ON MY INQUIRY OF THOSE INDIVIDUALS IMMEDIATELY RESPONSIBLE FOR OBTAINING THE INFORMATION, I BELIEVE THE SUBMITTED INFORMATION IS TRUE, ACCURATE AND COMPLETE. I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION, INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT. SEE 18 U.S.C. § 1001 AND 33 U.S.C. § 1310. (Penalties under these statutes may include fines up to \$10,000 and/or maximum imprisonment of between 6 months and 5 years.)

SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT

Amos S. Kameron Plt. Mgr

TELEPHONE

503, 286-3681

DATE

00 08 07

STATEMENTS AND EXPLANATION OF ANY VIOLATIONS (Reference all attachments here)

Nothing to report, there were no discharges made during the month

cc: J. Holtrop - City of Portland, T.I. Self -KII, M.A. Cilley - KII

File Partial

Form Approved.  
OMB No. 2040-0004  
Approval expires 05-31-99

Koppers001636

#309 P.01/01

15:55

1900.08-07

286 3681

FROM : KOPPERS INDUSTRIES, INC.

12:41  
1900.07-10  
286 3681  
FROM : KOPPERS INDUSTRIES, INC.

MITTEE NAME/ADDRESS (Include Facility Name/Location if Different)  
ME Koppers Industries, Inc.  
DRESS 7540 NW Saint Helens Road  
Portland, OR 97210  
CITY NW Terminal  
COUNTY Multnomah County

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)  
DISCHARGE MONITORING REPORT (DMR)  
(2-16) (17-19)

PERMIT NUMBER	DISCHARGE NUMBER
	006

47430  
101642

File Pathed  
OMR  
Form Approved.  
OMB No. 2040-0004  
Approval expires 05-31-98

MONITORING PERIOD					
FROM			TO		
YEAR	MO	DAY	YEAR	MO	DAY
00	06	01	00	06	30
(20-21) (22-23) (24-25)			(26-27) (28-29) (30-31)		

NOTE: Read instructions before completing this form.

PARAMETER (32-37)		(3 Card Only) QUANTITY OR LOADING (46-53)			(4 Card Only) QUANTITY OR CONCENTRATION (54-61)				NO. EX (62-63)	FREQUENCY OF ANALYSIS (64-68)	SAMPLE TYPE (69-70)
		AVERAGE	MAXIMUM	UNITS	MINIMUM	AVERAGE	MAXIMUM	UNITS			
FLOW	SAMPLE MEASUREMENT	7,333		GPD					0	n/A	EST.
	PERMIT REQUIREMENT										
TEMP	SAMPLE MEASUREMENT				17.0	17.0	17.0	C	0	1/7	GRA
	PERMIT REQUIREMENT				N/A	N/A	N/A				
pH	SAMPLE MEASUREMENT				6.5	6.5	6.5	SU	0	1/7	GRAB
	PERMIT REQUIREMENT				6.0		9.0				
OIL & GREASE	SAMPLE MEASUREMENT				2.5	2.5	2.5	MG/L	0	1/7	GRAB
	PERMIT REQUIREMENT				0	10	15				
PHENOLS	SAMPLE MEASUREMENT				N.D.	N.D.	N.D.	MG/L	0	1/30	GRAB
	PERMIT REQUIREMENT				0	.5	.7				
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										

ME/TITLE PRINCIPAL EXECUTIVE OFFICER

R.D. Collins, VP

TYPED OR PRINTED

I CERTIFY UNDER PENALTY OF LAW THAT I HAVE PERSONALLY EXAMINED AND AM FAMILIAR WITH THE INFORMATION SUBMITTED HEREIN; AND BASED ON MY INQUIRY OF THOSE INDIVIDUALS IMMEDIATELY RESPONSIBLE FOR OBTAINING THE INFORMATION, I BELIEVE THE SUBMITTED INFORMATION IS TRUE, ACCURATE AND COMPLETE. I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION, INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT. SEE 18 U.S.C. 1 1001 AND 30 U.S.C. 1 1318. Penalties under these statutes may include fines up to \$10,000 and or maximum imprisonment of between 6 months and 5 years.

R.D. S. Kamerer, Plt. Mgr

SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT

TELEPHONE

DATE

503 286-3681

AREA CODE

NUMBER

00 07 10

YEAR MO DAY

REMARKS AND EXPLANATION OF ANY VIOLATIONS (Reference all attachments here)

cc: J. Holtrop - City of Portland, T.I. Self -KII Pittsburgh, M.A. Cilley - KII

FROM : KOPPERS INDUSTRIES, INC. 286 3681 1900.05-02 13:29 #048 P.01/02

PERMITTEE NAME/ADDRESS (Include Facility Name/ Location if Different)  
NAME Koppers Industries, Inc.  
ADDRESS 7540 NW Saint Helens Road  
Portland, OR 97210

FACILITY NW Terminal  
LOCATION Multnomah County

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)  
DISCHARGE MONITORING REPORT (DMR)  
(2-16) (17-18)

PERMIT NUMBER

004  
DISCHARGE NUMBER

47430  
101642

Form Approved.  
OMB No. 2040-0004  
Approval expires 05-31-98

MONITORING PERIOD

FROM YEAR MO DAY TO YEAR MO DAY  
00 04 01 00 04 30  
(20-21) (22-23) (24-25) (26-27) (28-29) (30-31)

NOTE: Read instructions before completing this form.

PARAMETER (32-37)		13 Card Only (46-53) QUANTITY OR LOADING (54-61)			14 Card Only (38-45) QUANTITY OR CONCENTRATION (46-53) (54-61)			NO. EX (52-53)	FREQUENCY OF ANALYSIS (64-68)	SAMPLE TYPE (69-70)		
		AVERAGE	MAXIMUM	UNITS	MINIMUM	AVERAGE	MAXIMUM				UNITS	
Flow	SAMPLE MEASUREMENT	14.667		CPD					0	N/A	EST.	
	PERMIT REQUIREMENT											
Temp	SAMPLE MEASUREMENT				13.5	14.6	15.7	C	0	1/7	GRAB	
	PERMIT REQUIREMENT				N/A	N/A	N/A					
pH	SAMPLE MEASUREMENT				7.2	7.6	8.0	SU	0	1/7	GRAB	
	PERMIT REQUIREMENT				6.0		9.0					
Oil & Grease	SAMPLE MEASUREMENT				N.D.	1.7	3.4	MG/L	0	1/7	GRAB	
	PERMIT REQUIREMENT				0	10	15					
Phenols	SAMPLE MEASUREMENT				N.D.	N.D.	N.D.	MG/L	0	1/30	GRAB	
	PERMIT REQUIREMENT				0	.5	.7					
	SAMPLE MEASUREMENT											
	PERMIT REQUIREMENT											
	SAMPLE MEASUREMENT											
	PERMIT REQUIREMENT											
NAME/TITLE PRINCIPAL EXECUTIVE OFFICER		I CERTIFY UNDER PENALTY OF LAW THAT I HAVE PERSONALLY EXAMINED AND AM FAMILIAR WITH THE INFORMATION SUBMITTED HEREIN; AND BASED ON MY INQUIRY OF THOSE INDIVIDUALS IMMEDIATELY RESPONSIBLE FOR OBTAINING THE INFORMATION, I BELIEVE THE SUBMITTED INFORMATION IS TRUE, ACCURATE AND COMPLETE. I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION, INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT. SEE 18 U.S.C. 1 1001 AND 33 U.S.C. 1 1310. (Penalties under these statutes may include fines up to \$10,000 and or maximum imprisonment of between 6 months and 5 years.)							TELEPHONE		DATE	
R.D. Collins, VP TYPED OR PRINTED		S. Kamerer, Plt Mgr. SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT							503 286-3681 AREA CODE NUMBER		00 05 02 YEAR MO DAY	

COMMENTS AND EXPLANATION OF ANY VIOLATIONS (Reference all attachments here)

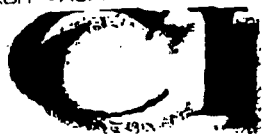
Second quarter PAH results are attached.

cc: J. Holtrop-City of Portland, T.I. Self-KII

EPA Form 3320-1 (08-95) Previous editions may be used.

(REPLACES EPA FORM T-40 WHICH MAY NOT BE USED.)

PAGE OF



# CERTIFICATE OF ANALYSIS

CLIENT: KOPPERS INDUSTRIES, INC.  
7540 NW ST. HELENE ROAD  
PORTLAND OR 97210-3663

PHONE: (503) 286-3681  
FAX: (503) 285-2831

DATE SUBMITTED: 04/13/20

PROJECT NAME: WW TKS

CI SAMPLE	CLIENTS ID#	DATE	TIME	MATRIX	DESCRIPTION
0723-001		04/13/2000	1000	Water	WASTE WATER GRAB SAMPLE

REPORT DATE: 04/17/2000      REPORT NUMBER: 0723      PAGE: 1 OF 1

SAMPLE	ANALYSIS	PARAMETER	RESULT	UNIT	DETECTION LIMIT	ANALYST
WASTE WATER GRAB SAMPLE						
0723-001	O & G TOTAL (REM) EPA 1664	TOTAL OIL AND GREASE	3.4	mg/L	2	Gordon L.
	PM10 1 EPA 625	ACENAPHTHENE	4.0	ug/L	0.05	Jacob F.
		ACENAPHTHYLENE	1.7	ug/L	0.05	
		ANTHRACENE	1.4	ug/L	0.05	
		BENZO(A)ANTHRACENE	8.7	ug/L	0.05	
		BENZO(A)PYRENE	7.9	ug/L	0.2	
		BENZO(B)FLUORANTHENE	7.2	ug/L	0.2	
		BENZO(GHI)PERYLENE	5.8	ug/L	0.5	
		BENZO(K)FLUORANTHENE	6.4	ug/L	0.2	
		CHRYSENE	7.0	ug/L	0.05	
		DIBENZO(AH)ANTHRACENE	2.3	ug/L	0.3	
		FLUORANTHENE	9.7	ug/L	0.05	
		FLUORENE	2.3	ug/L	0.05	
		INDENO(1,2,3-CD)PYRENE	5.2	ug/L	0.4	
		NAFTHALENE	13	ug/L	0.05	
		PERANTHRENE	3.9	ug/L	0.05	
		PYRENE	8.4	ug/L	0.05	
		SURROGATE	106%	RECOVERY	50%-150%	
	PHENOLS, TOTAL EPA 420.1	TOTAL RECOVERABLE PHENOLICS	ND	mg/L	0.05	Abby K.

REVIEWED BY: *[Signature]*

Martin Little - Quality Manager

COLUMBIA INSPECTION, INC. 133 N. Lombard, Portland, OR 97203 Phone: (503) 286-9484 Fax: (503) 286-5355 E-mail: [info@columbiainspection.com](mailto:info@columbiainspection.com)

PERMITTEE NAME/ADDRESS (Include Facility Name/ Location (if different))  
NAME Koppers Industries, Inc.

ADDRESS 7540 NW Saint Helens, Road  
Portland Oregon 97210

ACTIVITY NW Terminal  
LOCATION Multnomah County

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)  
DISCHARGE MONITORING REPORT (DMR)  
(2-16) (17-18)

PERMIT NUMBER

DISCHARGE NUMBER  
003

47430  
101642

Form Approved.  
OMB No. 2040-0004  
Approval expires 05-31-98

MONITORING PERIOD						
YEAR	MO	DAY	TO	YEAR	MO	DAY
00	03	01	TO	00	03	31
(20-21) (22-23) (24-25) (26-27) (28-29) (30-31)						

NOTE: Read instructions before completing this form.

PARAMETER (32-37)		(3 Card Only) QUANTITY OR LOADING (48-53)			(4 Card Only) QUANTITY OR CONCENTRATION (54-61)				NO. EX (62-63)	FREQUENCY OF ANALYSIS (64-68)	SAMPLE TYPE (69-70)
		AVERAGE	MAXIMUM	UNITS	MINIMUM	AVERAGE	MAXIMUM	UNITS			
FLOW	SAMPLE MEASUREMENT	42,742		GPD					0	N/A	EST.
	PERMIT REQUIREMENT										
TEMP	SAMPLE MEASUREMENT			C	9.0	10.0	10.7		0	1/7	GR.
	PERMIT REQUIREMENT				N/A	N/A	N/A				
pH	SAMPLE MEASUREMENT			SU	6.8	7.0	7.2		0	1/7	GRAB
	PERMIT REQUIREMENT				6.0		9.0				
OIL & GREASE	SAMPLE MEASUREMENT			MG/L	N.D.	2.9	4.9		0	1/7	GRAB
	PERMIT REQUIREMENT				0	10	15				
PHENOLS	SAMPLE MEASUREMENT			MG/L	N.D.	N.D.	N.D.		0	1/30	GRAB
	PERMIT REQUIREMENT				0	.5	.7				
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER

R.D. Collins, VP

TYPED OR PRINTED

I CERTIFY UNDER PENALTY OF LAW THAT I HAVE PERSONALLY EXAMINED AND AM FAMILIAR WITH THE INFORMATION SUBMITTED HEREIN; AND BASED ON MY INQUIRY OF THOSE INDIVIDUALS IMMEDIATELY RESPONSIBLE FOR OBTAINING THE INFORMATION, I BELIEVE THE SUBMITTED INFORMATION IS TRUE, ACCURATE AND COMPLETE. I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION, INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT, SEE 18 U.S.C. § 1001 AND 18 U.S.C. § 1319. (Penalties under these statutes may include fines up to \$10,000 and or maximum imprisonment of between 6 months and 5 years.)

James S. Kamerer, Plt. MGR

SIGNATURE OF PRINCIPAL EXECUTIVE  
OFFICER OR AUTHORIZED AGENT

TELEPHONE

DATE

503 286-3681

AREA  
CODE

NUMBER

00

04

05

YEAR

MO

DAY

REMARKS AND EXPLANATION OF ANY VIOLATIONS (Reference all attachments here)

cc: J. Holtrop - City of Portland, T.I. Self - KII

PERMITTEE NAME/ADDRESS (Include Facility Name/Location if Different)

NAME Koppers Industries, Inc.

ADDRESS 7540 NW Saint Helens Road  
Portland, OR 97210

FACILITY NW Terminal  
LOCATION Multnomah County

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)  
DISCHARGE MONITORING REPORT (DMR)  
(2-16) (17-19)

101642  
PERMIT NUMBER

002  
DISCHARGE NUMBER


3077-J  
47430

Form Approved.  
OMB No. 2040-0004  
Approved expires 05-31-98

MONITORING PERIOD									
		YEAR	MO	DAY			YEAR	MO	DAY
FROM		00	02	01	TO		00	02	29
		(120-21)	(22-23)	(24-25)			(28-27)	(28-29)	(30-31)

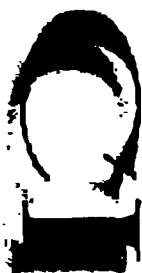
NOTE: Read instructions before completing this form.

PARAMETER (32-37)	X	(3 Card Only) QUANTITY OR LOADING (48-53)			(4 Card Only) QUANTITY OR CONCENTRATION (38-45) (49-53) (54-61)				NO. EX (62-63)	FREQUENCY OF ANALYSIS (64-68)	SAMPLE TYPE (69-70)
		AVERAGE	MAXIMUM	UNITS	MINIMUM	AVERAGE	MAXIMUM	UNITS			
FLOW	SAMPLE MEASUREMENT		37,931	GPD					0	N/A	EST.
	PERMIT REQUIREMENT										
TEMP.	SAMPLE MEASUREMENT				8.5	10.1	11.9	C	0	1/7	GRAB
	PERMIT REQUIREMENT				N/A	N/A	N/A				
PH	SAMPLE MEASUREMENT				7.2	7.4	7.6	SU	0	1/7	GRAB
	PERMIT REQUIREMENT				6.0		9.0				
OIL & GREASE	SAMPLE MEASUREMENT				N.D.	3.7	7.1	MG/L	0	1/7	GRAB
	PERMIT REQUIREMENT				0	10	15				
PHENOLS	SAMPLE MEASUREMENT				N.D.	N.D.	N.D.	MG/L	0	1/30	GRAB
	PERMIT REQUIREMENT				0	.5	.7				
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER	I CERTIFY UNDER PENALTY OF LAW THAT I HAVE PERSONALLY EXAMINED AND AM FAMILIAR WITH THE INFORMATION SUBMITTED HEREIN AND BASED ON MY INQUIRY OF THOSE INDIVIDUALS IMMEDIATELY RESPONSIBLE FOR OBTAINING THE INFORMATION, I BELIEVE THE SUBMITTED INFORMATION IS TRUE, ACCURATE AND COMPLETE. I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION, INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT. SEE 18 U.S.C. § 1001 AND 36 U.S.C. § 1319. (Penalties under these statutes may include fines up to \$10,000 and/or maximum imprisonment of between 6 months and 5 years.)	 Bruce S. Kamerer, Plt. Mgr. SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT	TELEPHONE	DATE		
R.D. Collins, VP TYPED OR PRINTED			503 286-3681	00	03	03

COMMENTS AND EXPLANATION OF ANY VIOLATIONS (Reference all attachments here)

cc: J. Holtrop-City of Portland, T.I. Self-KII



# CERTIFICATE OF ANALYSIS

P.02

PERMITTEE NAME/ADDRESS (Include Facility Name/Location if Different)  
NAME Koppers Industries, Inc.  
ADDRESS 7540 NW Saint Helens Road  
Portland, OR 97210

FACILITY NW Terminal  
LOCATION Multnomah County

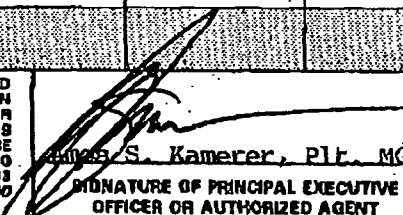
NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)  
DISCHARGE MONITORING REPORT (DMR)  
(2-16) (17-19)  
101642  
PERMIT NUMBER  
001  
DISCHARGE NUMBER

3077-J  
47430

Form Approved.  
OMB No. 2040-0004  
Approval expires 05-31-91

MONITORING PERIOD  
YEAR MO DAY YEAR MO DAY  
FROM 00 01 01 TO 00 01 31  
(20-21) (22-23) (24-25) (26-27) (28-29) (30-31)

NOTE: Read instructions before completing this form.

PARAMETER (32-37)	X	(3 Card Only) (46-53) QUANTITY OR LOADING (64-61)			(4 Card Only) (38-45) QUANTITY OR CONCENTRATION (46-53) (64-61)				NO. EX. (62-63)	FREQUENCY OF ANALYSIS (64-66)	SAMPL TYPE (69-70)
		AVERAGE	MAXIMUM	UNITS	MINIMUM	AVERAGE	MAXIMUM	UNITS			
FLOW	SAMPLE MEASUREMENT	21,290		GPD					0	N/A	EST.
	PERMIT REQUIREMENT										
TEMP	SAMPLE MEASUREMENT				4.3	8.9	11.3	C	0	1/7	GRAB
	PERMIT REQUIREMENT				N/A	N/A	N/A				
pH	SAMPLE MEASUREMENT				6.2	7.0	7.6	SU	0	1/7	GRAB
	PERMIT REQUIREMENT				6.0		9.0				
OIL & GREASE	SAMPLE MEASUREMENT				N.D.	.9	2.8	MG/L	0	1/7	GRAB
	PERMIT REQUIREMENT				0	10	15				
Phenols	SAMPLE MEASUREMENT				.16	.16	.16	MG/L	0	1/30	GRAB
	PERMIT REQUIREMENT				0	.5	.7				
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
NAME/TITLE PRINCIPAL EXECUTIVE OFFICER		I CERTIFY UNDER PENALTY OF LAW THAT I HAVE PERSONALLY EXAMINED AND AM FAMILIAR WITH THE INFORMATION SUBMITTED HEREIN; AND BASED ON MY INQUIRY OF THOSE INDIVIDUALS IMMEDIATELY RESPONSIBLE FOR OBTAINING THE INFORMATION, I BELIEVE THE SUBMITTED INFORMATION IS TRUE, ACCURATE AND COMPLETE. I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION, INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT. SEE 18 U.S.C. § 1001 AND 33 U.S.C. § 1319. (Penalties under these statutes may include fines up to \$10,000 and/or maximum imprisonment of between 6 months and 5 years.)				TELEPHONE		DATE			
R.D. Collins, VP		 R.D. Collins, VP SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT				503 286-3681		00	02	02	
TYPED OR PRINTED						AREA CODE NUMBER		YEAR	MO	DAY	

COMMENTS AND EXPLANATION OF ANY VIOLATIONS (Reference all attachments here)

First Quarter 2000 PAH results are attached

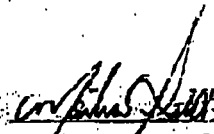
cc: J. Holtrop - City of Portland, T.I. Self - KII

DATE SUBMITTED: 01/03/19

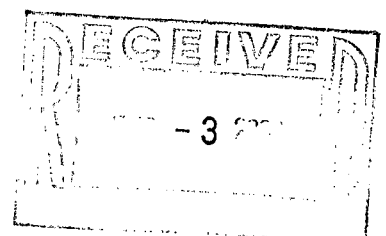
PROJECT NAME: WASTE WATER TANKS

CI SAMPLE CLIENTS ID# DATE TIME MATRIX DESCRIPTION  
000006-001 01/03/2000 1000 Water WASTE WATER GRAB SAMPLE  
REPORT DATE: 01/05/2000 REPORT NUMBER: 000006 PAGE: 1 OF 1

SAMPLE	ANALYSIS	PARAMETER	RESULT	UNIT	DETECTION		ANALYST
					LIMIT		
WASTE WATER GRAB SAMPLE		SAMPLE ID:					
000006-001	O & G TOTAL (REM)	TOTAL OIL AND GREASE	ND	mg/L	2		Gordon L.
	PHENOLS, TOTAL	TOTAL RECOVERABLE PHENOLICS	0.16	mg/L	0.05		Dick R.
	PAH 2	ACENAPHTHENE	7.7	ug/L	0.05		Jacob F.
	EPA 625 (SIM)	ACENAPHTHYLENE	1.3	ug/L	0.05		
		ANTHRACENE	5.2	ug/L	0.05		
		BENZO(A)ANTHRACENE	24	ug/L	0.05		
		BENZO(A)PYRENE	42	ug/L	0.2		
		BENZO(B)FLUORANTHENE	30	ug/L	0.2		
		BENZO(GHI)PERYLENE	34	ug/L	0.5		
		BENZO(K)FLUORANTHENE	29	ug/L	0.2		
		CHRYSENE	29	ug/L	0.05		
		DIBENZO(AH)ANTHRACENE	5.6	ug/L	0.3		
		FLUORANTHENE	46	ug/L	0.05		
		FLUORENE	5.5	ug/L	0.05		
		INDENO(1,2,3-CD)PYRENE	38	ug/L	0.4		
		NAFHTHALENE	0.79	ug/L	0.05		
		PHENANTHRENE	16	ug/L	0.05		
		PYRENE	42	ug/L	0.05		
		SURROGATE	774		RECOVERY 508-1508		

REVIEWED BY:   
Martin Little - Quality Manager

COLUMBIA INSPECTION, INC. 7133 N. Lombard, Portland, OR 97203 Phone (503) 288-9484 Fax (503) 288-5355 E-mail lab@columbiainspection.com





PERMITTEE NAME/ADDRESS (Include Facility Name/ Location if Different)  
NAME Koppers Industries, Inc.

ADDRESS 7540 NW Saint Helens Road  
Portland, OR 97210

FACILITY NW Terminal

LOCATION Multnomah County

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)  
DISCHARGE MONITORING REPORT (DMR)  
(2-18)

101642  
PERMIT NUMBER

012  
DISCHARGE NUMBER

3077-J  
47430

Form Approved.  
OMB No. 2040-0004  
Approval expires 05-31-98

MONITORING PERIOD								
YEAR MO DAY			YEAR MO DAY					
99 12 01			99 12 31					
(20-21) (22-23) (24-25)			(26-27) (28-29) (30-31)					

FROM

TO

NOTE: Read instructions before completing this form.

PARAMETER (32-37)		(3 Card Only) QUANTITY OR LOADING (46-53)			(4 Card Only) QUANTITY OR CONCENTRATION (54-61)				NO. EX (62-63)	FREQUENCY OF ANALYSIS (64-68)	SAMPLE TYPE (69-70)
		AVERAGE	MAXIMUM	UNITS	MINIMUM	AVERAGE	MAXIMUM	UNITS			
FLOW	SAMPLE MEASUREMENT	21,290		GPD					0	N/A	EST.
	PERMIT REQUIREMENT										
TEMP	SAMPLE MEASUREMENT				10.4	11.2	12.3		0	1/7	GRAB
	PERMIT REQUIREMENT				N/A	N/A	N/A	C			
pH	SAMPLE MEASUREMENT				7.2	7.5	8.1		0	1/7	GRAB
	PERMIT REQUIREMENT				6.0		9.0	SU			
OIL & GREASE	SAMPLE MEASUREMENT				3.4	5.1	7.5		0	1/7	GRAB
	PERMIT REQUIREMENT				0	10	15	MG/L			
PHENOLS	SAMPLE MEASUREMENT				.09	.09	.09		0	1/30	GRAB
	PERMIT REQUIREMENT				0	.5	.7	MG/L			
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER

B.D. Collins, VP

TYPED OR PRINTED

I CERTIFY UNDER PENALTY OF LAW THAT I HAVE PERSONALLY EXAMINED AND AM FAMILIAR WITH THE INFORMATION SUBMITTED HEREIN AND BASED ON MY KNOWLEDGE OF THOSE INDIVIDUALS IMMEDIATELY RESPONSIBLE FOR OBTAINING THE INFORMATION, I BELIEVE THE SUBMITTED INFORMATION IS TRUE, ACCURATE AND COMPLETE. I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION, INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT. SEE 18 U.S.C. § 1001 AND 32 U.S.C. § 1318. (Penalties under these statutes may include fines up to \$10,000 and/or maximum imprisonment of between 6 months and 5 years.)

Signature of J. Kamerer, Plt. Mgr.

SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT

TELEPHONE

DATE

503 286-3681 00 01 04  
AREA CODE NUMBER YEAR MO DAY

REMARKS AND EXPLANATION OF ANY VIOLATIONS (Reference all attachments here)

cc: J. Holtrop-City of Portland, T.I. Self-KII

PERMITTEE NAME/ADDRESS (Include Facility Name/ Location (if different))

NAME **Koppers Industries, Inc.**  
 ADDRESS **7540 NW Saint Helens Road**  
**Portland, OR 97210**

FACILITY **NW Terminal**  
 LOCATION **Multnomah County**

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)

DISCHARGE MONITORING REPORT (DMR)

(2-18)

(17-19)

**101642**  
 PERMIT NUMBER

**011**  
 DISCHARGE NUMBER

**3077-J**  
**47430**

Form Approved.  
 OMB No. 2040-0004  
 Approval expires 05-31-8

MONITORING PERIOD								
YEAR			MO			DAY		
FROM	99	11	01	TO	99	11	30	
(20-21)			(22-23)			(24-25)		
			(26-27)			(28-29)		
						(30-31)		

NOTE: Read instructions before completing this form.

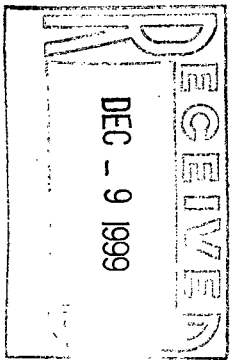
PARAMETER (32-37)	X	QUANTITY OR LOADING (46-51)			QUANTITY OR CONCENTRATION (54-61)			NO. EX (62-63)	FREQUENCY OF ANALYSIS (64-69)	SAMPLE TYPE (69-70)	
		AVERAGE (46-53)	MAXIMUM (54-55)	UNITS (56-57)	MINIMUM (58-59)	AVERAGE (60-61)	MAXIMUM (62-63)				UNITS (64-65)
FLOW	SAMPLE MEASUREMENT	22,000		GPD					0	N/A	EST.
	PERMIT REQUIREMENT										
TEMP	SAMPLE MEASUREMENT				10.9	12.1	13.5		0	1/7	GR
	PERMIT REQUIREMENT				N/A	N/A	N/A				
pH	SAMPLE MEASUREMENT				6.8	8.0	8.9		0	1/7	GRAB
	PERMIT REQUIREMENT				6.0		9.0				
OIL & GREASE	SAMPLE MEASUREMENT				2.7	4.3	5.7		0	1/7	GRAB
	PERMIT REQUIREMENT				0	10	15				
PHENOLS	SAMPLE MEASUREMENT				N.D.	N.D.	N.D.		0	1/30	GRAB
	PERMIT REQUIREMENT				0	.5	.7				
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER	I CERTIFY UNDER PENALTY OF LAW THAT I HAVE PERSONALLY EXAMINED AND AM FAMILIAR WITH THE INFORMATION SUBMITTED HEREIN, AND BASED ON MY INQUIRY OF THOSE INDIVIDUALS IMMEDIATELY RESPONSIBLE FOR OBTAINING THE INFORMATION, I BELIEVE THE SUBMITTED INFORMATION IS TRUE, ACCURATE, AND COMPLETE. I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION, INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT. SEE 18 U.S.C. 1001 AND 33 U.S.C. 131b. (Penalties under these statutes may include fines up to \$10,000 and or maximum imprisonment of between 6 months and 5 years.)	TELEPHONE		DATE	
R.D. Collins, VP TYPED OR PRINTED		503, 286-3681 AREA CODE NUMBER		99 12 08 YEAR MO DAY	

COMMENTS AND EXPLANATION OF ANY VIOLATIONS (Reference all attachments here)

cc: J. Haltrop - City of Portland, T.I. Self -KII



**KOPPERS  
INDUSTRIES**

FAX TRANSMITTAL

7540 N.W. Saint Helens Rd.  
Portland, Oregon 97210-3663  
Phone: (503) 286-3681  
Fax: (503) 285-2831  
Web Page: [www.koppers.com](http://www.koppers.com)

TO:

T. SELF

DATE:

10-5-99

FROM:

CAROL

TOTAL # OF PAGES:

2

IF THIS TRANSMITTAL IS IN ERROR, PLEASE CALL 503-286-3681 FAX # 503-285-2831

11:13  
1999.10-05  
286 3681  
FROM: KOPPERS INDUSTRIES, INC.  
Koppers001648

PERMITTEE NAME/ADDRESS (Include Facility Name/Location if Different)  
NAME Koppers Industries Inc.  
ADDRESS 7540 NW St Helens Rd  
Portland, OR 97210

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)  
DISCHARGE MONITORING REPORT (DMR)  
(12-18) (17-19)

101642  
PERMIT NUMBER

001  
DISCHARGE NUMBER

3077-J


47430

Form Approved.  
OMB No. 2040-0004  
Approval expires 05-31-98

ACTIVITY NW Terminal  
LOCATION Multnomah Co

MONITORING PERIOD  
FROM YEAR MO DAY TO YEAR MO DAY  
99 09 01 TO 99 09 30  
(20-21) (22-23) (24-25) (26-27) (28-29) (30-31)

NOTE: Read instructions before completing this form.

PARAMETER (32-37)		(3 Card Only) QUANTITY OR LOADING (46-53)			(4 Card Only) QUANTITY OR CONCENTRATION (46-53) (54-61)				NO. EX (62-63)	FREQUENCY OF ANALYSIS (64-66)	SAMPLE TYPE (69-70)
		AVERAGE	MAXIMUM	UNITS	MINIMUM	AVERAGE	MAXIMUM	UNITS			
FLOW	SAMPLE MEASUREMENT	7,333		GPD					0	N/A	EST.
	PERMIT REQUIREMENT										
TEMP	SAMPLE MEASUREMENT				22.7	22.7	22.7	C°	0	1/7	GRAB
	PERMIT REQUIREMENT				N/A	N/A	N/A				
pH	SAMPLE MEASUREMENT				8.2	8.2	8.2		0	1/7	GRAB
	PERMIT REQUIREMENT				6.0		9.0	SU			
OIL & GREASE	SAMPLE MEASUREMENT				N.D.	N.D.	N.D.	mg/L	0	1/7	GRAB
	PERMIT REQUIREMENT				0	10	15				
PHENOLS	SAMPLE MEASUREMENT				.07	.07	.07	mg/L	0	1/30	GRAB
	PERMIT REQUIREMENT				0	5	7				
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER

R.D. COLLINS, VP

TYPED OR PRINTED

I CERTIFY UNDER PENALTY OF LAW THAT I HAVE PERSONALLY EXAMINED AND AM FAMILIAR WITH THE INFORMATION SUBMITTED HEREIN, AND BASED ON MY INQUIRY OF THOSE INDIVIDUALS IMMEDIATELY RESPONSIBLE FOR OBTAINING THE INFORMATION, I BELIEVE THE SUBMITTED INFORMATION IS TRUE, ACCURATE AND COMPLETE. I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION, INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT. SEE 18 U.S.C. § 1001 AND 33 U.S.C. § 1319. (Penalties under these statutes may include fines up to \$10,000 and/or maximum imprisonment of between 6 months and 5 years.)

ANDREW S. KAMBERER, P.E., Mgr

SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT

TELEPHONE

503 286-3681

AREA CODE NUMBER

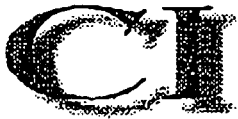
DATE

99 10 05

YEAR MO DAY

COMMENTS AND EXPLANATION OF ANY VIOLATIONS (Reference all attachments here)

cc: JOHN HOLTROP-CITY OF PORTLAND, T.I. SELF-KII



## CERTIFICATE OF ANALYSIS

COPY

CLIENT: KOPPERS INDUSTRIES, INC.  
7540 NW ST. HELENS ROAD  
PORTLAND OR 97210-3663

PHONE: (503) 286-3681  
FAX: (503) 285-2831

DATE SUBMITTED: 09/02/99

PROJECT NAME: MONTHLY WASTE WATER ANALYSIS

CI SAMPLE #	CLIENTS ID#	DATE	TIME	DESCRIPTION
991744-001		09/02/99	1000	WASTE WATER TANK SAMPLE
991744-001		09/02/99	1000	WASTE WATER TANK SAMPLE

REPORT DATE: 09/03/99

REPORT NUMBER: 991744

PAGE: 1 OF 1

SAMPLE	ANALYSIS	PARAMETER	RESULT	UNIT	DETECTION LIMIT	ANALYST
WASTE WATER TANK SAMPLE						
991744-001	O&G: TOTAL, GRAV EPA 413.1/9070	TOTAL OIL & GREASE	ND	PPM	2	Gordon L.
	PHENOLS, TOTAL EPA 420.1	TOTAL RECOVERABLE PHENOLICS	0.07	PPM	0.05	Steve W.

REVIEWED BY:

Martin Little - Quality Manager

PERMITTEE NAME/ADDRESS (Include Facility Name/Location (if different))

NAME Koppers Industries, Inc.

ADDRESS 7540 NW Saint Helens Road  
Portland, OR 97210

FACILITY LOCATION NW Terminal  
Multnomah County

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)  
DISCHARGE MONITORING REPORT (DMR)

101642  
PERMIT NUMBER

001  
DISCHARGE NUMBER

3077-J  
47430

Form Approved.  
OMB No. 2040-0004  
Approval expires 05-31-88

MONITORING PERIOD

FROM YEAR 99 MO 09 DAY 01 TO YEAR 99 MO 09 DAY 31  
(20-21) (22-23) (24-25) (26-27) (28-29) (30-31)

NOTE: Read instructions before completing this form.

PARAMETER (32-37)		(3 Card Only) QUANTITY OR LOADING (46-53)			(4 Card Only) QUANTITY OR CONCENTRATION (54-61)				NO. EX (62-63)	FREQUENCY OF ANALYSIS (64-65)	SAMPLE TYPE (69-70)
		AVERAGE	MAXIMUM	UNITS	MINIMUM	AVERAGE	MAXIMUM	UNITS			
FLOW	SAMPLE MEASUREMENT	14,194		GPD					0	N/A	EST.
	PERMIT REQUIREMENT										
TEMP.	SAMPLE MEASUREMENT				11.2	13.2	14.3	C	0	1/7	GRAB
	PERMIT REQUIREMENT				N/A	N/A	N/A				
pH	SAMPLE MEASUREMENT				8.9	8.9	8.9	SU	0	1/7	GRAB
	PERMIT REQUIREMENT				6.0		9.0				
OIL & GREASE	SAMPLE MEASUREMENT				3.0	3.2	3.4	MG/L	0	1/7	GRAB
	PERMIT REQUIREMENT				0	10	15				
PHENOLS	SAMPLE MEASUREMENT				.06	.06	.06	MG/L	0	1/7	GRAB
	PERMIT REQUIREMENT				0	.5	.7				
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER

R.D. Collins, VP

TYPED OR PRINTED

I CERTIFY UNDER PENALTY OF LAW THAT I HAVE PERSONALLY EXAMINED AND AM FAMILIAR WITH THE INFORMATION SUBMITTED HEREIN, AND BASED ON MY INQUIRY OF THOSE INDIVIDUALS IMMEDIATELY RESPONSIBLE FOR OBTAINING THE INFORMATION, I BELIEVE THE SUBMITTED INFORMATION IS TRUE, ACCURATE AND COMPLETE. I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION, INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT. SEE 18 U.S.C. § 1001 AND 33 U.S.C. § 1812. (Penalties under these statutes may include fines up to \$10,000 and/or maximum imprisonment of between 6 months and 5 years.)

Approved, Kameron, Plant MGR

SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT

TELEPHONE

DATE

503 286-3681 99 11 01  
AREA CODE NUMBER YEAR MO DAY

COMMENTS AND EXPLANATION OF ANY VIOLATIONS (Reference all attachments here)

4th Quarter PAH Results are attached

cc: J. Holtrop - City of Portland, T.I. Self -KII

PERMITTEE NAME/ADDRESS (Include Facility Name/Location (if different))  
NAME Koppers Industries, Inc.  
ADDRESS 7540 NW St. Helens Rd.  
Portland, OR 97210

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)  
DISCHARGE MONITORING REPORT (DMR)  
(2-18)  
101642  
PERMIT NUMBER  
(17-19)  
001  
DISCHARGE NUMBER

3077-J  
47430

Form Approved.  
OMB No. 2040-0004  
Approval expires 05-31-1

FACILITY NW Terminal  
LOCATION Multnomah Co.

MONITORING PERIOD  
FROM YEAR MO DAY TO YEAR MO DAY  
99 08 01 99 08 31  
(20-21) (22-23) (24-25) (26-27) (28-29) (30-31)

NOTE: Read instructions before completing this form.

PARAMETER (32-37)	X	(3 Card Only) QUANTITY OR LOADING (46-53)			(4 Card Only) QUANTITY OR CONCENTRATION (54-61)				NO. EX (62-63)	FREQUENCY OF ANALYSIS (64-69)	SAMP TYPE (69-7)
		AVERAGE	MAXIMUM	UNITS	MINIMUM	AVERAGE	MAXIMUM	UNITS			
FLOW	SAMPLE MEASUREMENT	7097		GPD					0	N/A	EST
	PERMIT REQUIREMENT										
TEMP	SAMPLE MEASUREMENT				21.0	21.0	21.0	C	0	1/7	GRA
	PERMIT REQUIREMENT				N/A	N/A	N/A				
PH	SAMPLE MEASUREMENT				7.2	7.2	7.2	SU	0	1/7	GRAE
	PERMIT REQUIREMENT				6.0		9.0				
OIL & GREASE	SAMPLE MEASUREMENT				N.D.	N.D.	N.D.	mg/L	0	1/7	GRAE
	PERMIT REQUIREMENT				0	10	15				
PHENOLS	SAMPLE MEASUREMENT				<.05	<.05	<.05	mg/L	0	1/30	GRAB
	PERMIT REQUIREMENT				0	.5	.7				
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
NAME/TITLE PRINCIPAL EXECUTIVE OFFICER		I CERTIFY UNDER PENALTY OF LAW THAT I HAVE PERSONALLY EXAMINED AND AM FAMILIAR WITH THE INFORMATION SUBMITTED HEREIN, AND BASED ON MY INQUIRY OF THOSE INDIVIDUALS IMMEDIATELY RESPONSIBLE FOR OBTAINING THE INFORMATION, I BELIEVE THE SUBMITTED INFORMATION IS TRUE, ACCURATE AND COMPLETE. I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION, INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT, SEE 18 U.S.C. § 1001 AND 33 U.S.C. § 1318. (Penalties under these statutes may include fines up to \$10,000 and/or maximum imprisonment of between 3 months and 5 years.)									
R.D. COLLINS, VP		Amos B. Kameron, Plt. Mgr.									
TYPED OR PRINTED		SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT									
		TELEPHONE		DATE		AREA CODE		NUMBER		YEAR MO DAY	
		503 286-3681		99 09 02							

COMMENTS AND EXPLANATION OF ANY VIOLATIONS (Reference all attachments here)

cc: J. Holtrop - City of Portland, T.I. Self - KII



PERMITTEE NAME/ADDRESS (Include Facility Name/Location V.D. if rural)  
NAME Koppers Industries, Inc.

ADDRESS 7540 NW Saint Helens Road

FACILITY NW Terminal  
LOCATION Multnomah County

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)  
DISCHARGE MONITORING REPORT (DMR)

(2-16)

(17-19)

101642

001

PERMIT NUMBER

DISCHARGE NUMBER

3077-J  
47430

Form Approved.  
OMB No. 2040-0004  
Approval expires 05-31-98

MONITORING PERIOD

FROM YEAR MO DAY TO YEAR MO DAY  
99 07 01 99 07 31  
(20-21) (22-23) (24-25) (26-27) (28-29) (30-31)

NOTE: Read instructions before completing this form.

PARAMETER (32-37)	X	(3 Card Only) QUANTITY OR LOADING (46-53)			(4 Card Only) QUANTITY OR CONCENTRATION (46-53)				NO. EX (52-53)	FREQUENCY OF ANALYSIS (54-58)	SAMPLE TYPE (59-70)
		AVERAGE	MAXIMUM	UNITS	MINIMUM	AVERAGE	MAXIMUM	UNITS			
FLOW	SAMPLE MEASUREMENT	7,097							0	N/A	EST.
	PERMIT REQUIREMENT			GPD							
TEMP	SAMPLE MEASUREMENT				24.6	24.7	24.8	C	0	1/7	GRAB
	PERMIT REQUIREMENT				N/A	N/A	N/A				
pH	SAMPLE MEASUREMENT				7.3	7.3	7.3	SU	0	1/7	GRAB
	PERMIT REQUIREMENT				6.0		9.0				
OIL & GREASE	SAMPLE MEASUREMENT				N.D.	N.D.	N.D.	MG/L	0	1/7	GRAB
	PERMIT REQUIREMENT				0	10	15				
PHENOLS	SAMPLE MEASUREMENT				N.D.	N.D.	N.D.	MG/L	0	1/30	GRAB
	PERMIT REQUIREMENT				0	.5	.7				
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER	I CERTIFY UNDER PENALTY OF LAW THAT I HAVE PERSONALLY EXAMINED AND AM FAMILIAR WITH THE INFORMATION SUBMITTED HEREIN; AND BASED ON MY INQUIRY OF THOSE INDIVIDUALS IMMEDIATELY RESPONSIBLE FOR OBTAINING THE INFORMATION, I BELIEVE THE SUBMITTED INFORMATION IS TRUE, ACCURATE AND COMPLETE. I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION, INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT. SEE 18 U.S.C. 1001 AND 33 U.S.C. 1319. (Penalties under these statutes may include fines up to \$10,000 and/or maximum imprisonment of between 6 months and 5 years.)	Amos S. Kamerer, Plt. MGR	TELEPHONE	DATE		
R.D. Collins, VP			503 286-3681	99	08	04
TYPED OR PRINTED	SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT	AREA CODE	NUMBER	YEAR	MO	DAY

STATEMENTS AND EXPLANATION OF ANY VIOLATIONS (Reference all attachments here)

Third Quarter PAH Results are attached.

cc: J. Holtrop - City of Portland, T.I. Self - KII



# CERTIFICATE OF ANALYSIS

ORIGINAL

CLIENT: KOPPERS INDUSTRIES, INC.  
7540 NW ST. HELENS ROAD  
PORTLAND OR 97210-3663

PHONE: (503) 286-3681  
FAX: (503) 285-2831

DATE SUBMITTED: 07/27/99

PROJECT NAME: QUARTERLY WASTE WATER ANALYSIS

CI SAMPLE #	CLIENTS ID#	DATE	TIME	DESCRIPTION
991492-001		07/27/99	1400	WASTE WATER TANK GRAB SAMPLE
991492-001		07/27/99	1400	WASTE WATER TANK GRAB SAMPLE
991492-001		07/27/99	1400	WASTE WATER TANK GRAB SAMPLE

REPORT DATE: 07/30/99

REPORT NUMBER: 991492

PAGE: 1 OF 1

SAMPLE	ANALYSIS	PARAMETER	RESULT	UNIT	DETECTION LIMIT	ANALYST
WASTE WATER TANK GRAB SAMPLE						
991492-001	O&G. TOTAL. GRAV EPA 413.1/9070	TOTAL OIL & GREASE	ND	PPM	2	Gordon L.
	PHENOLS. TOTAL EPA 420.1	TOTAL RECOVERABLE PHENOLICS	ND	PPM	0.05	Abigail K.
PNAH 2 EPA 625 (SIM)	ACENAPHTHENE	0.40	ug/L	0.05	Jacob F.	
	ACENAPHTHYLENE	0.17	ug/L	0.05		
	ANTHRACENE	0.50	ug/L	0.05		
	BENZO(A)ANTHRACENE	2.6	ug/L	0.05		
	BENZO(A)PYRENE	3.1	ug/L	0.2		
	BENZO(B)FLUORANTHENE	3.4	ug/L	0.2		
	BENZO(GHI)PERYLENE	2.2	ug/L	0.5		
	BENZO(K)FLUORANTHENE	2.1	ug/L	0.2		
	CHRYSENE	3.0	ug/L	0.05		
	DIBENZO(AH)ANTHRACENE	1.6	ug/L	0.3		
	FLUORANTHENE	3.7	ug/L	0.05		
	FLUORENE	0.16	ug/L	0.05		
	INDENO(1,2,3-CD)PYRENE	1.6	ug/L	0.4		
	NAPHTHALENE	0.26	ug/L	0.05		
	PHENANTHRENE	1.4	ug/L	0.05		
	PYRENE	3.2	ug/L	0.05		
		29.39				
	SURROGATE	83%		% RECOVERY	503-150%	

REVIEWED BY:   
Martin Little - Quality Manager

COLUMBIA INSPECTION, INC. 7133 N Lombard St. - Portland, OR 97203 (503) 286-9464 Fax (503) 285-7831

20/22 P.02/02

10:02

1999-08-04

286 3681

FROM: KOPPERS INDUSTRIES, INC.

Koppers001653

PERMITTEE NAME/ADDRESS (Include Facility Name/Location if Different)

NAME **Koppers Industries, Inc.**  
 ADDRESS **7540 NW Saint Helens Road**  
**Portland, OR 97210**

FACILITY **NW Terminal**  
 LOCATION **Multnomah County**

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)  
 DISCHARGE MONITORING REPORT (DMR)

101642  
 PERMIT NUMBER

001  
 DISCHARGE NUMBER

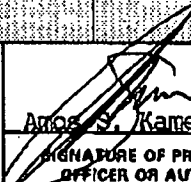
3077-J  
 47430

Form Approved.  
 OMB No. 2040-0004  
 Approval expires 05-31-98

MONITORING PERIOD									
YEAR			MO			DAY			
FROM	99	06	01	TO	99	06	30		
(20-21)		(22-23)		(24-25)		(26-27)		(28-29) (30-31)	

NOTE: Read instructions before completing this form.

PARAMETER (32-37)		QUANTITY OR LOADING (48-53)			QUANTITY OR CONCENTRATION (54-61)			NO. EX (62-63)	FREQUENCY OF ANALYSIS (64-68)	SAMPLE TYPE (69-70)
		AVERAGE	MAXIMUM	UNITS	MINIMUM	AVERAGE	MAXIMUM			
FLOW	SAMPLE MEASUREMENT	14,667		GPD				0	N/A	EST.
	PERMIT REQUIREMENT									
TEMP	SAMPLE MEASUREMENT				15.8	18	20.2	0	1/7	GRA
	PERMIT REQUIREMENT				N/A	N/A	N/A			
pH	SAMPLE MEASUREMENT				6.9	7.1	7.2	0	1/7	GRAB
	PERMIT REQUIREMENT				6.0		9.0			
OIL & GREASE	SAMPLE MEASUREMENT				N.D.	N.D.	N.D.	0	1/7	GRAB
	PERMIT REQUIREMENT				0	10	15			
PHENOLS	SAMPLE MEASUREMENT				N.D.	N.D.	N.D.	0	1/30	GRAB
	PERMIT REQUIREMENT				0	.5	.7			
	SAMPLE MEASUREMENT									
	PERMIT REQUIREMENT									
	SAMPLE MEASUREMENT									
	PERMIT REQUIREMENT									

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER	I CERTIFY UNDER PENALTY OF LAW THAT I HAVE PERSONALLY EXAMINED AND AM FAMILIAR WITH THE INFORMATION SUBMITTED HEREIN; AND BASED ON MY INQUIRY OF THOSE INDIVIDUALS IMMEDIATELY RESPONSIBLE FOR OBTAINING THE INFORMATION, I BELIEVE THE SUBMITTED INFORMATION IS TRUE, ACCURATE AND COMPLETE. I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION, INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT. SEE 18 U.S.C. § 1001 AND 33 U.S.C. § 1319. Penalties under these statutes may include fines up to \$10,000 and/or maximum imprisonment of between 6 months and 5 years.	SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT	TELEPHONE	DATE		
R.D. Collins, VP TYPED OR PRINTED		Anne S. Kammer, PLT MGR 	503   286-3681 AREA CODE   NUMBER	99   07   06 YEAR   MO   DAY		

COMMENTS AND EXPLANATION OF ANY VIOLATIONS (Reference all attachments here)

cc J. Holtrop - City of Portland, T.I. Self -RII

File  
Portland  
Water  
DMR  
5/99

PERMITTEE NAME/ADDRESS (Include Facility Name/Location if Different)

NAME Koppers Industries, Inc.

ADDRESS 7540 NW Saint Helens Road  
Portland, OR 97210

FACILITY NW Terminal

LOCATION Multnomah County

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)  
DISCHARGE MONITORING REPORT (DMR)

101003 PERMIT NUMBER 001 DISCHARGE NUMBER

3077-J  
47430

Form Approved  
OMB No. 2040-0004  
Approval expires 05-31-98

MONITORING PERIOD  
FROM 99 05 01 TO 99 05 31  
(20-21) (22-23) (24-25) (26-27) (28-29) (30-31)

NOTE: Read instructions before completing this form.

PARAMETER (32-37)	X	(3 Card Only) (46-53)			(4 Card Only) (38-46)				(54-61)			NO. EX (62-63)	FREQUENCY OF ANALYSIS (64-68)	SAMPLE TYPE (69-70)
		AVERAGE	MAXIMUM	UNITS	MINIMUM	AVERAGE	MAXIMUM	UNITS						
FLOW	SAMPLE MEASUREMENT			GPD							0	N/A	EST.	
	PERMIT REQUIREMENT													
TEMP	SAMPLE MEASUREMENT				13.4	15.9	19.9	C	0	1/7	GRAB			
	PERMIT REQUIREMENT				N/A	N/A	N/A							
pH	SAMPLE MEASUREMENT				6.6	6.8	7.0	SU	0	1/7	GRAB			
	PERMIT REQUIREMENT				6.0		9.0							
OIL & GREASE	SAMPLE MEASUREMENT				N.D.	.7	2.7	MG/L	0	1/7	GRAB			
	PERMIT REQUIREMENT				0	10	15							
PHENOLS	SAMPLE MEASUREMENT				N.D.	N.D.	N.D.	MG/L	0	1/30	GRAB			
	PERMIT REQUIREMENT				0	.5	.7							
	SAMPLE MEASUREMENT													
	PERMIT REQUIREMENT													
	SAMPLE MEASUREMENT													
	PERMIT REQUIREMENT													

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER	I CERTIFY UNDER PENALTY OF LAW THAT I HAVE PERSONALLY EXAMINED AND AM FAMILIAR WITH THE INFORMATION SUBMITTED HEREIN; AND BASED ON MY INQUIRY OF THOSE INDIVIDUALS IMMEDIATELY RESPONSIBLE FOR OBTAINING THE INFORMATION, I BELIEVE THE SUBMITTED INFORMATION IS TRUE, ACCURATE AND COMPLETE. I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION, INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT. SEE 18 U.S.C. § 1001 AND 82 U.S.C. § 1910. Penalties under these statutes may include fines up to \$10,000 and/or maximum imprisonment of between 6 months and 5 years.	TELEPHONE	DATE			
R.D. Collins, VP		503 286-3681	99	06	07	
TYPED OR PRINTED	SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT	AREA CODE	NUMBER	YEAR	MO	DAY

COMMENTS AND EXPLANATION OF ANY VIOLATIONS (Reference all attachments here)

cc: J. Holtrop - City of Portland, T.I. Self - KII

NAME/ADDRESS (Include Facility Name/Location if Different)

NAME Koppers Industries, Inc.

ADDRESS 7540 NW Saint Helens road  
Portland, OR 97210

FACILITY NW Terminal

LOCATION Multnomah County

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)

DISCHARGE MONITORING REPORT (DMR)

(2-18)

(12-19)

101003

PERMIT NUMBER

001

DISCHARGE NUMBER

3077-J

47430

Form Approved.

OMB No. 2040-0004

Approval expires 05-31

FROM: KOPPERS INDUSTRIES, INC.

286 3681

1999 05-05

14:15

#304 P.01/01

MONITORING PERIOD					
YEAR	MO	DAY	YEAR	MO	DAY
99	04	01	99	04	30
FROM (20-21) (22-23) (24-25)			TO (26-27) (28-29) (30-31)		

NOTE: Read instructions before completing this form.

PARAMETER (32-37)		(3 Card Only) QUANTITY OR LOADING (48-53)			(4 Card Only) QUANTITY OR CONCENTRATION (48-53)			NO. EX (62-63)	FREQUENCY OF ANALYSIS (64-65)	SAMP TYP (66-67)
		AVERAGE	MAXIMUM	UNITS	MINIMUM	AVERAGE	MAXIMUM			
FLOW	SAMPLE MEASUREMENT	22,000		GPD				0	N/A	ES
	PERMIT REQUIREMENT									
TEMP	SAMPLE MEASUREMENT				10.6	12.0	14.6	0	1/7	GRAB
	PERMIT REQUIREMENT				N/A	N/A	N/A			
PH	SAMPLE MEASUREMENT				6.8	7.0	7.1	0	1/7	GRAB
	PERMIT REQUIREMENT				6.0		9.0			
OIL & GREASE	SAMPLE MEASUREMENT				N.D.	1.8	3.0	0	1/7	GRAB
	PERMIT REQUIREMENT				0	10	15			
PHENOLS	SAMPLE MEASUREMENT				.26	.26	.26	0	1/30	GRAB
	PERMIT REQUIREMENT				0	.5	.7			
	SAMPLE MEASUREMENT									
	PERMIT REQUIREMENT									
	SAMPLE MEASUREMENT									
	PERMIT REQUIREMENT									

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER

R.D. Collins, Vp

TYPED OR PRINTED

I CERTIFY UNDER PENALTY OF LAW THAT I HAVE PERSONALLY EXAMINED AND AM FAMILIAR WITH THE INFORMATION SUBMITTED HEREIN; AND BASED ON MY INQUIRY OF THOSE INDIVIDUALS IMMEDIATELY RESPONSIBLE FOR OBTAINING THE INFORMATION, I BELIEVE THE SUBMITTED INFORMATION IS TRUE, ACCURATE AND COMPLETE. I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION, INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT. SEE 18 U.S.C. § 1001 AND 33 U.S.C. 1 1919. (Penalties under these statutes may include fines up to \$10,000 and or maximum imprisonment of between 6 months and 5 years.)

Amos St. Kameron, Plt. MGR

SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT

TELEPHONE

503 286-3681

AREA CODE NUMBER

DATE

99 05 05

YEAR MO DAY

COMMENTS AND EXPLANATION OF ANY VIOLATIONS (Reference all attachments here)

Second Quarter PAH Results are attached

cc: J. Holtrop - City of Portland, T.I. Self - KII

15:37  
1999-04-08  
286 3681  
FROM: KOPPERS INDUSTRIES, INC.  
Koppers001657

PERMITTEE NAME/ADDRESS (Include Facility Name/Location if Different)  
NAME Koppers Industries, Inc.

ADDRESS 7540 NW Saint Helens Road  
Portland, OR 97210

FACILITY NW Terminal  
LOCATION Multnomah County

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)  
DISCHARGE MONITORING REPORT (DMR)  
(2-16)

101003  
PERMIT NUMBER

001  
DISCHARGE NUMBER

3077-J  
47430

Form Approved.  
OMB No. 2040-0004  
Approval expires 05-31-98

MONITORING PERIOD

FROM YEAR MO DAY TO YEAR MO DAY  
99 03 01 99 03 31  
(120-21) (122-23) (124-25) (126-27) (128-29) (130-31)

NOTE: Read instructions before completing this form.

PARAMETER (32-37)		(3 Card Only) QUANTITY OR LOADING (46-53)			(4 Card Only) QUANTITY OR CONCENTRATION (46-53)				NO. EX (52-53)	FREQUENCY OF ANALYSIS (64-69)	SAMPLE TYPE (69-70)
		AVERAGE	MAXIMUM	UNITS	MINIMUM	AVERAGE	MAXIMUM	UNITS			
FLOW	SAMPLE MEASUREMENT	35,484		GPD					0	N/A	EST.
	PERMIT REQUIREMENT										
TEMP	SAMPLE MEASUREMENT				8.4	10.0	14.8	C	0	1/7	GRAB
	PERMIT REQUIREMENT				N/A	N/A	N/A				
pH	SAMPLE MEASUREMENT				7.0	7.1	7.3	SU	0	1/7	GRAB
	PERMIT REQUIREMENT				6.0		9.0				
Oil & Grease	SAMPLE MEASUREMENT				N.D.	2.2	3.1	MG/L	0	1/7	GRAB
	PERMIT REQUIREMENT				0	10	15				
PHENOLS	SAMPLE MEASUREMENT				N.D.	N.D.	N.D.	MG/L	0	1/30	GRAB
	PERMIT REQUIREMENT					.5	.7				
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER

R.D. Collins, VP

TYPED OR PRINTED

I CERTIFY UNDER PENALTY OF LAW THAT I HAVE PERSONALLY EXAMINED AND AM FAMILIAR WITH THE INFORMATION SUBMITTED HEREIN, AND BASED ON MY INQUIRY OF THOSE INDIVIDUALS IMMEDIATELY RESPONSIBLE FOR OBTAINING THE INFORMATION, I BELIEVE THE SUBMITTED INFORMATION IS TRUE, ACCURATE AND COMPLETE. I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION, INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT. SEE 18 U.S.C. § 1001 AND 33 U.S.C. § 1319. (Penalties under these statutes may include fines up to \$10,000 and/or maximum imprisonment of between 6 months and 5 years.)

Amos S. Kamerer, Plt. MGR

SIGNATURE OF PRINCIPAL EXECUTIVE  
OFFICER OR AUTHORIZED AGENT

TELEPHONE

503 286-3681

AREA  
CODE

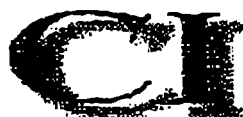
NUMBER

DATE

99 04 08

YEAR MO DAY

cc: J. Holtrop-City of Portland, T.I. Self-KIT



# CERTIFICATE OF ANALYSIS

CLIENT: KOPPERS INDUSTRIES, INC.  
7540 NW ST. HELENS ROAD  
PORTLAND OR 97210-3663

PHONE: (503) 285-3531  
FAX: (503) 285-2831

DATE SUBMITTED: 03/01/99

PROJECT NAME: WWTks 1-3-5

CI SAMPLE #	CLIENTS ID#	DATE	TIME	DESCRIPTION
990370-001		03/01/99	0900	WWTks 1-3-5
990370-001		03/01/99	0900	WWTks 1-3-5

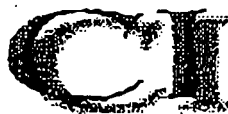
REPORT DATE: 03/02/99

REPORT NUMBER: 990370

PAGE: 1 OF 1

SAMPLE	TEST	PARAMETER	RESULT	UNIT	DETECTION LIMIT	ANALYST
WWTks 1-3-5						
990370-001	PHENOLS, TOTAL EPA 420.1	TOTAL RECOVERABLE PHENOLICS	ND	PPM	0.05	Dick R.
WWTks 1-3-5						
990370-001	OIL, TOTAL, GRAV EPA 413.1/9070	TOTAL OIL & GREASE	2.8	PPM	2	Gordon L.

DRAFT REPORT - THIS REPORT HAS NOT UNDERGONE FINAL QUALITY ASSURANCE REVIEW.



## CERTIFICATE OF ANALYSIS

CLIENT: KOPPERS INDUSTRIES, INC.  
7540 NW ST. HELENS ROAD  
PORTLAND OR 97210-3663

PHONE: (503) 286-3681  
FAX: (503) 285-2831

DATE SUBMITTED: 03/08/99

PROJECT NAME: WASTE WATER TANKS 2,4,6

CI SAMPLE #	CLIENTS ID#	DATE	TIME	DESCRIPTION
990430-001		03/08/99	1000	WASTE WATER GRAB SAMPLE

REPORT DATE: 03/09/99

REPORT NUMBER: 990430

PAGE: 1 OF 1

SAMPLE	ANALYSIS	PARAMETER	RESULT	UNIT	DETECTION LIMIT	ANALYST
WASTE WATER GRAB SAMPLE						
990430-001	O&G, TOTAL, GRAV EPA 413.1/9070	TOTAL OIL & GREASE	3.1	PPM	2	Gordon L.

REVIEWED BY:

Richard D. Reid - Laboratory Director





## CERTIFICATE OF ANALYSIS

CLIENT: KOPPERS INDUSTRIES, INC.  
7540 NW ST. HELENS ROAD  
PORTLAND OR 97210-3663

PHONE: (503) 286-3681  
FAX: (503) 285-2831

DATE SUBMITTED: 03/15/99

PROJECT NAME: WW TKS 1.3.5

CI SAMPLE #	CLIENTS ID#	DATE	TIME	DESCRIPTION
990478-001		03/15/99	1300	

REPORT DATE: 03/16/99

REPORT NUMBER: 990478

PAGE: 1 OF 1

SAMPLE	TEST	PARAMETER	RESULT	UNIT	DETECTION LIMIT	ANALYST
SAMPLE ID: WWTKS 1.3.5						
990478-001	O&G, TOTAL, GRAV EPA 412.1/9070	TOTAL OIL & GREASE	2.9	PPM	2	Dick R.

DRAFT REPORT - THIS REPORT HAS NOT UNDERGONE FINAL QUALITY ASSURANCE REVIEW.

COLUMBIA INSPECTION, INC. 7133 N Lombard St. - Portland, OR 97203 (503) 286-9464 Fax (503) 285-2831



## CERTIFICATE OF ANALYSIS

CLIENT: KOPPERS INDUSTRIES, INC.  
7540 NW ST. HELENS ROAD  
PORTLAND OR 97210-3663

PHONE: (503) 286-3681  
FAX: (503) 285-2831

DATE SUBMITTED: 03/22/99

PROJECT NAME: WASTE WATER ANALYSIS

CI SAMPLE #	CLIENTS ID#	DATE	TIME	DESCRIPTION
990527-001		03/22/99	0800	WW TANKS 1-3-5 WASTE WATER GRAB SAMPLE

REPORT DATE: 03/23/99

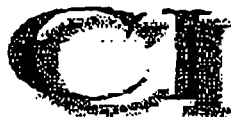
REPORT NUMBER: 990527

PAGE: 1 OF 1

SAMPLE	ANALYSIS	PARAMETER	RESULT	UNIT	DETECTION LIMIT	ANALYST
WW TANKS 1-3-5 WASTE WATER GRAB SAMPLE						
990527-001	O&G, TOTAL, GRAV EPA 413.1/9070	TOTAL OIL & GREASE	2.3	PPM	2	Gordon L.

REVIEWED BY:

  
Martin Little - Laboratory Manager



## CERTIFICATE OF ANALYSIS

CLIENT: KOPPERS INDUSTRIES, INC.  
7540 NW ST. HELENS ROAD  
PORTLAND OR 97210-3663

PHONE: (503) 286 3681  
FAX: (503) 285 2831

DATE SUBMITTED: 03/29/99

PROJECT NAME: WASTE WATER ANALYSIS

CI SAMPLE #	CLIENTS ID#	DATE	TIME	DESCRIPTION
990577-001		03/29/99	0830	WW TANKS 2-4-6 GRAB SAMPLE

REPORT DATE: 03/29/99

REPORT NUMBER: 990577

PAGE: 1 OF 1

SAMPLE	ANALYSIS	PARAMETER	RESULT	UNIT	DETECTION LIMIT	ANALYST
WW TANKS 2-4-6 GRAB SAMPLE						
990577-001	O&G, TOTAL, GRAV EPA 413.1/9070	TOTAL OIL & GREASE	ND	PPM	2	Gordon L.

REVIEWED BY:

  
Martin Little - Laboratory Manager

PERMITTEE NAME/ADDRESS (Include Facility Name/Location if Different)

NAME Koppers Industries, Inc.

ADDRESS 7540 NW Saint Helens Road  
Portland, OR 97210

FACILITY NW Terminal  
LOCATION Multnomah Co.

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)

DISCHARGE MONITORING REPORT (DMR)

(2-18)

(17-19)

101003

PERMIT NUMBER

001

DISCHARGE NUMBER

3077-J

47430

Form Approved.

OMB No. 2040-0004

Approval expires 05-31-99

MONITORING PERIOD					
YEAR	MO	DAY	YEAR	MO	DAY
99	02	01	99	02	28
(20-21) (22-23) (24-25)			(28-27) (28-29) (30-31)		

NOTE: Read instructions before completing this form.

PARAMETER (32-37)	X	(3 Card Only) QUANTITY OR LOADING (46-53)			(4 Card Only) QUANTITY OR CONCENTRATION (54-61)				NO. EX (62-63)	FREQUENCY OF ANALYSIS (64-68)	SAMPL TYPE (69-70)					
		AVERAGE	MAXIMUM	UNITS	MINIMUM	AVERAGE	MAXIMUM	UNITS								
FLOW	SAMPLE MEASUREMENT	49,286		GPD					0	N/A	EST					
	PERMIT REQUIREMENT															
TEMP	SAMPLE MEASUREMENT				6.9	9.7	11.5	C°	0	1/7	GRA					
	PERMIT REQUIREMENT				N/A	N/A	N/A									
pH	SAMPLE MEASUREMENT				7.0	7.2	7.4	SU	0	1/7	GRAB					
	PERMIT REQUIREMENT				6.0		9.0									
OIL & GREASE	SAMPLE MEASUREMENT				N.D.	1.3	3.1	MG/L	0	1/7	GRAB					
	PERMIT REQUIREMENT				0	10	15									
PHENOLS	SAMPLE MEASUREMENT				.06	.06	.06	MG/L	0	1/30	GRAB					
	PERMIT REQUIREMENT					.5	.7									
	SAMPLE MEASUREMENT															
	PERMIT REQUIREMENT															
	SAMPLE MEASUREMENT															
	PERMIT REQUIREMENT															
NAME/TITLE PRINCIPAL EXECUTIVE OFFICER		I CERTIFY UNDER PENALTY OF LAW THAT I HAVE PERSONALLY EXAMINED AND AM FAMILIAR WITH THE INFORMATION SUBMITTED HEREIN; AND BASED ON MY INQUIRY OF THOSE INDIVIDUALS IMMEDIATELY RESPONSIBLE FOR OBTAINING THE INFORMATION, I BELIEVE THE SUBMITTED INFORMATION IS TRUE, ACCURATE AND COMPLETE. I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION, INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT. SEE 18 U.S.C. § 1001 AND 33 U.S.C. § 1319. Penalties under these statutes may include fines up to \$10,000 and/or maximum imprisonment of between 6 months and 6 years.					TELEPHONE		DATE							
R.D. Collins, VP							503 286-3681		99	03	05					
TYPED OR PRINTED							AREA CODE	NUMBER	YEAR	MO	DAY					
COMMENTS AND EXPLANATION OF ANY VIOLATIONS (Reference all attachments here)																

Amos J. Kameron, Plt. MGR

SIGNATURE OF PRINCIPAL EXECUTIVE  
OFFICER OR AUTHORIZED AGENT

cc: J. Holtrop-City of Portland, T.I. S



## CERTIFICATE OF ANALYSIS

CLIENT: KOPPERS INDUSTRIES, INC.  
7540 NW ST. HELENS ROAD  
PORTLAND OR 97210-3663

PHONE: (503) 286-3681  
FAX: (503) 285-2831

DATE SUBMITTED: 02/02/99

PROJECT NAME: WASTE WATER TANKS 2-4-6

CI SAMPLE #	CLIENTS ID#	DATE	TIME	DESCRIPTION
990205-001		02/02/99	0830	WASTE WATER GRAB SAMPLE
990205-001		02/02/99	0830	WASTE WATER GRAB SAMPLE

REPORT DATE: 02/03/99

REPORT NUMBER: 990205

PAGE: 1 OF 1

SAMPLE	ANALYSIS	PARAMETER	RESULT	UNIT	DETECTION LIMIT	ANALYST
WASTE WATER GRAB SAMPLE 990205-001	O&G, TOTAL, GRAV EPA 413.1/9070	TOTAL OIL & GREASE	2.0	PPM	2	Dick R.
990205-001	PHENOLS, TOTAL EPA 420.1	TOTAL RECOVERABLE PHENOLICS	0.06	PPM	0.05	Abigail K.

REVIEWED BY:

Richard D. Reid - Laboratory Director



## CERTIFICATE OF ANALYSIS

CLIENT: KOPPERS INDUSTRIES, INC.  
7540 NW ST. HELENS ROAD  
PORTLAND OR 97210-3663

PHONE: (503) 286-3681  
FAX: (503) 285-2831

DATE SUBMITTED: 02/08/99

PROJECT NAME: WW TKS

CI SAMPLE #	CLIENTS ID#	DATE	TIME	DESCRIPTION
990237-001		02/08/99	0900	WW TKS

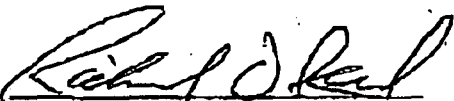
REPORT DATE: 02/08/99

REPORT NUMBER: 990237

PAGE: 1 OF 1

SAMPLE	ANALYSIS	PARAMETER	RESULT	UNIT	DETECTION LIMIT	ANALYST
WW TKS						
990237-001	O&G, TOTAL, GRAV EPA 413.1/9070	TOTAL OIL & GREASE	ND	PPM	2	Gordon L.

REVIEWED BY:

  
Richard D. Reid - Laboratory Director



## CERTIFICATE OF ANALYSIS

CLIENT: KOPPERS INDUSTRIES, INC.  
7540 NW ST. HELENS ROAD  
PORTLAND OR 97210-3663

PHONE: (503) 286-3681  
FAX: (503) 285-2831

DATE SUBMITTED: 02/17/99

PROJECT NAME:

CI SAMPLE #	CLIENTS ID#	DATE	TIME	DESCRIPTION
990311-001		02/17/99	1500	NW TKS 2-4-6

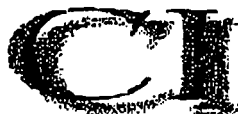
REPORT DATE: 02/18/99

REPORT NUMBER: 990311

PAGE: 1 OF 1

SAMPLE	TEST	PARAMETER	RESULT	UNIT	DETECTION LIMIT	ANALYST
NW TKS 2-4-6						
990311-001	O&G, TOTAL, GRAV EPA 413.1/9070	TOTAL OIL & GREASE	ND	PPM	2	Gordon L.

DRAFT REPORT - THIS REPORT HAS NOT UNDERGONE FINAL QUALITY ASSURANCE REVIEW.



## CERTIFICATE OF ANALYSIS

CLIENT: KOPPERS INDUSTRIES, INC.  
7540 NW ST. HELENS ROAD  
PORTLAND OR 97210-3663

PHONE: (503) 286-3681  
FAX: (503) 285-2831

DATE SUBMITTED: 02/22/99

PROJECT NAME:

CI SAMPLE #	CLIENTS ID#	DATE	TIME	DESCRIPTION
990335-001		02/22/99	0900	WTKs 1-3-5

REPORT DATE: 02/22/99

REPORT NUMBER: 990335

PAGE: 1 OF 1

SAMPLE	ANALYSIS	PARAMETER	RESULT	UNIT	DETECTION LIMIT	ANALYST
WTKs 1-3-5						
990335-001	O&G, TOTAL, GRAV EPA 413.1/9070	TOTAL OIL & GREASE	3.1	PPM	2	Gordon L.

REVIEWED BY:

  
Richard D. Reid - Laboratory Director



# Polynuclear Aromatic Hydrocarbons

## Two Year Summary - Outfall 001

### 1998-1999

### Portland Terminal

PAH Constituent	Quarter	1st Qtr-98	2nd Qtr-98	3rd Qtr-98	4th Qtr-98	1st Qtr-99	2nd Qtr-99	2nd Qtr-99	3rd Qtr-99	4th Qtr-99
	Sample Date	01/21/98								
	Laboratory	Columbia	Columbia	Columbia	Columbia	Columbia	Columbia	Columbia	Columbia	Columbia
Acenaphthene	ug/L	17.0								
Acenaphthylene	ug/L	4.7								
Anthracene	ug/L	10.0								
Benzo(a)anthracene	ug/L	19.0								
Benzo(b)fluoranthene	ug/L	11.0								
Benzo(k)fluoranthene	ug/L	11.0								
Benzo(ghi)perylene	ug/L	22.0								
Benzo(a)pyrene	ug/L	19.0								
Chrysene	ug/L	19.0								
Dibenzo(a,h)anthracene	ug/L	0.0								
Fluoranthene	ug/L	23.0								
Fluorene	ug/L	12.0								
Indeno(1,2,3-cd)pyrene	ug/L	32.0								
Naphthalene	ug/L	0.4								
Phenanthrene	ug/L	10.0								
Pyrene	ug/L	19.0								
Total PAH's	ug/L	229.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

#### Notes:

- 1.) Sample analyses that were indicated as Nondetectable are shown as "0" in the columns above.
- 2.) Quarterly analysis for PAH constituents are not required if there is zero discharge during the quarter.

PERMITTEE NAME/ADDRESS (Include Facility Name/Location if Different)  
NAME Koppers Industries, Inc.  
ADDRESS 7540 NW Saint Helens Road  
Portland, OR 97210

FACILITY NW Terminal  
LOCATION Multnomah County

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)  
DISCHARGE MONITORING REPORT (DMR)  
(2-16) (17-19)

101003 PERMIT NUMBER  
001 DISCHARGE NUMBER

Form Approved.  
OMB No. 2040-0004  
Approval expires 05-31-91

MONITORING PERIOD  
FROM YEAR MO DAY TO YEAR MO DAY  
98 11 01 98 11 30  
(20-21) (22-23) (24-25) (26-27) (28-29) (30-31)

NOTE: Read instructions before completing this form.

PARAMETER (32-37)	X	(3 Card Only) (46-53) QUANTITY OR LOADING (54-61)			(4 Card Only) (38-45) QUANTITY OR CONCENTRATION (48-53) (54-61)				NO. EX (62-63)	FREQUENCY OF ANALYSIS (64-68)	SAMPLI TYPE (69-70)		
		AVERAGE	MAXIMUM	UNITS	MINIMUM	AVERAGE	MAXIMUM	UNITS					
Flow	SAMPLE MEASUREMENT	30,333		GPD					0	N/A	Est.		
	PERMIT REQUIREMENT												
Temp	SAMPLE MEASUREMENT				14	14	15	°C	0	1/7	GRA		
	PERMIT REQUIREMENT				N/A	N/A	N/A						
pH	SAMPLE MEASUREMENT				6.8	7.0	7.1	SU	0	1/7	GRAB		
	PERMIT REQUIREMENT				6.0		9.0						
Oil & Grease	SAMPLE MEASUREMENT				N.D.	1.7	2.6	MG/L	0	1/7	GRAB		
	PERMIT REQUIREMENT				0	10	15						
Phenols	SAMPLE MEASUREMENT				N.D.	N.D.	N.D.	MG/L	0	1/30	GRAB		
	PERMIT REQUIREMENT				0	.5	.7						
	SAMPLE MEASUREMENT												
	PERMIT REQUIREMENT												
	SAMPLE MEASUREMENT												
	PERMIT REQUIREMENT												
NAME/TITLE PRINCIPAL EXECUTIVE OFFICER		I CERTIFY UNDER PENALTY OF LAW THAT I HAVE PERSONALLY EXAMINED AND AM FAMILIAR WITH THE INFORMATION SUBMITTED HEREIN; AND BASED ON MY INQUIRY OF THOSE INDIVIDUALS IMMEDIATELY RESPONSIBLE FOR OBTAINING THE INFORMATION, I BELIEVE THE SUBMITTED INFORMATION IS TRUE, ACCURATE AND COMPLETE. I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION, INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT. SEE 18 U.S.C. § 1001 AND 32 U.S.C. § 1319. (Penalties under these statutes may include fines up to \$10,000 and/or maximum imprisonment of between 6 months and 5 years.)							TELEPHONE		DATE		
R. D. Collins, V. P.		S. Kameron, Plt. Mgr.							503-286-3681		98 12 04		
TYPED OR PRINTED		SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT							AREA CODE	NUMBER	YEAR	MO	DAY

COMMENTS AND EXPLANATION OF ANY VIOLATIONS (Reference all attachments here)

DO NOT WRITE IN THESE SPACES  
EPA Form 3320-1 (08-95) Previous editions may be used.

(REPLACES EPA FORM T-40 WHICH MAY NOT BE USED.)

cc: J. Holtrop-City of Portland, T.I. Self-Kill

PAGE 1 OF 1

FROM: KOPPERS INDUSTRIES, INC.

286 3681

1998-12-04

11:15

#352 P.02/05

Koppers001669



## CERTIFICATE OF ANALYSIS

CLIENT: KOPPERS INDUSTRIES, INC.  
7540 NW ST. HELENS ROAD  
PORTLAND, OR 97210-3663

PHONE: (503) 286-3681  
FAX: (503) 285-2831

DATE SUBMITTED: 11/21/98

PROJECT NAME: WASTE WATER ANALYSIS

CI SAMPLE #	CLIENTS ID#	DATE	TIME	DESCRIPTION
981660-001		11/23/98	1400	WTKS WASTE WATER GRAB SAMPLE

REPORT DATE: 11/24/98

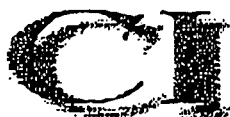
REPORT NUMBER: 981660

PAGE: 1 OF 1

SAMPLE	ANALYSTS	PARAMETER	RESULT	UNIT	DETECTION LIMIT	ANALYST
WTKS WASTE WATER GRAB SAMPLE						
981660-001	O&G, TOTAL, GRAV EPA 413.1/9070	TOTAL OIL & GREASE	2.6	PPM	2	Gordon L.

REVIEWED BY:

  
Martin Little - Laboratory Manager



## CERTIFICATE OF ANALYSIS

CLIENT: KOPPERS INDUSTRIES, INC.  
7540 NW ST. HELENS ROAD  
PORTLAND OR 97210-3663

PHONE: (503) 286-3681  
FAX: (503) 285-2831

DATE SUBMITTED: 11/20/98

PROJECT NAME: WWTks

CT SAMPLF #	CLIENTS ID#	DATE	TIME	DESCRIPTION
-------------	-------------	------	------	-------------

981651-001		11/20/98	1530	WWTk Grab
------------	--	----------	------	-----------

REPORT DATE: 11/20/98

REPORT NUMBER: 981651

PAGE: 1 OF 1

SAMPLE	ANALYSIS	PARAMETER	RESULT	UNIT	DETECTION LIMIT	ANALYST
WWTk Grab						
981651-001	O&G. TOTAL, GRAV EPA 413.1/9070	TOTAL OIL & GREASE	ND	PPM	2	Cordon 1.

REVIEWED BY:

Richard D. Reid - Laboratory Director



## CERTIFICATE OF ANALYSIS

CLIENT: KOPPERS INDUSTRIES, INC.  
7540 NW ST. HELENS ROAD  
PORTLAND OR 97210-3663

PHONE: (503) 286-3681  
FAX: (503) 285-2831

DATE SUBMITTED: 11/04/98

PROJECT NAME: WASTE WATER ANALYSIS

CI SAMPLE #	CLIENTS ID#	DATE	TIME	DESCRIPTION
981554-001		11/03/98	1500	WASTE WATER TANK GRAB SAMPLE
981554-001		11/03/98	1500	WASTE WATER TANK GRAB SAMPLE

REPORT DATE: 11/05/98

REPORT NUMBER: 981554

PAGE: 1 OF 1

SAMPLE	ANALYSIS	PARAMETER	RESULT	UNIT	DICTION LIMIT	ANALYST
WASTE WATER TANK GRAB SAMPLE						
981554-001	O&G, TOTAL, GRAB EPA 413.1/9070	TOTAL OIL & GREASE	2.6	PPM	2	Gordon L.
	PHENOLS, TOTAL, EPA 420.1	TOTAL RECOVERABLE PHENOLICS	0.1	PPM	0.05	Abigail K.

REVIEWED BY:

  
Martin Little - Laboratory Manager

COLUMBIA INSPECTION, INC. 7133 N Lombard St. - Portland, OR 97203 (503) 286-9464 Fax (503) 285-7851

PERMITTEE NAME/ADDRESS (Include Facility Name/Location if Different)  
NAME Koppers Industries, Inc.

ADDRESS 7540 NW Saint Helens Road  
Portland, OR 97210

FACILITY NW Terminal  
LOCATION Multnomah County

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)  
DISCHARGE MONITORING REPORT (DMR)

(2-16) 101003	(17-19) 001
PERMIT NUMBER	DISCHARGE NUMBER

Form Approved.  
OMB No. 2040-0004  
Approval expires 05-31-98

MONITORING PERIOD					
FROM			TO		
YEAR	MO	DAY	YEAR	MO	DAY
98	09	01	98	09	30
(20-21) (22-23) (24-25)			(26-27) (28-29) (30-31)		

NOTE: Read instructions before completing this form.

PARAMETER (32-37)	SAMPLE MEASUREMENT PERMIT REQUIREMENT	(3 Card Only) (46-53) QUANTITY OR LOADING (54-61)			(4 Card Only) (38-45) QUANTITY OR CONCENTRATION (46-53) (54-61)				NO. EX (62-63)	FREQUENCY OF ANALYSIS (64-68)	SAMPLE TYPE (69-70)		
		AVERAGE	MAXIMUM	UNITS	MINIMUM	AVERAGE	MAXIMUM	UNITS					
FLOW	SAMPLE MEASUREMENT	7,333		GPD					0	N/A	EST.		
	PERMIT REQUIREMENT												
TEMP	SAMPLE MEASUREMENT				61	65	68	F	0	1/7	GRAB		
	PERMIT REQUIREMENT				N/A	N/A	N/A						
PH	SAMPLE MEASUREMENT				6.8	6.9	7.0	SU	0	1/7	GRAB		
	PERMIT REQUIREMENT				6.0		9.0						
OIL & GREASE	SAMPLE MEASUREMENT				N.D.	N.D.	N.D.	MG/L	0	1/7	GRAB		
	PERMIT REQUIREMENT				0	10	15						
PHENOLS	SAMPLE MEASUREMENT				.05	.05	.05	MG/L	0	1/30	GRAB		
	PERMIT REQUIREMENT				0	.5	.7						
	SAMPLE MEASUREMENT												
	PERMIT REQUIREMENT												
	SAMPLE MEASUREMENT												
	PERMIT REQUIREMENT												
NAME/TITLE PRINCIPAL EXECUTIVE OFFICER		I CERTIFY UNDER PENALTY OF LAW THAT I HAVE PERSONALLY EXAMINED AND AM FAMILIAR WITH THE INFORMATION SUBMITTED HEREIN; AND BASED ON MY INQUIRY OF THOSE INDIVIDUALS IMMEDIATELY RESPONSIBLE FOR OBTAINING THE INFORMATION, I BELIEVE THE SUBMITTED INFORMATION IS TRUE, ACCURATE AND COMPLETE. I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION, INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT. SEE 18 U.S.C. § 1001 AND 33 U.S.C. § 1319. (Penalties under these statutes may include fines up to \$10,000 and/or maximum imprisonment of between 6 months and 5 years.)							TELEPHONE		DATE		
R. D. Collins, V. P.									503 286-3681		98 10 01		
TYPED OR PRINTED		SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT							AREA CODE	NUMBER	YEAR	MO	DAY

COMMENTS AND EXPLANATION OF ANY VIOLATIONS (Reference all attachments here)

Third quarter PAH results are attached.

cc: J. Holtrop-City of Portland, T.I. Self - KII

PERMITTEE NAME/ADDRESS (Include Facility Name/Location if Different)  
NAME Koppers Industries, Inc.

ADDRESS 7540 NW Saint Helens Road  
Portland, OR 97210

FACILITY NW Terminal  
LOCATION Multnomah County

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)  
DISCHARGE MONITORING REPORT (DMR)  
(2-16) (17-19)

101003  
PERMIT NUMBER

001  
DISCHARGE NUMBER

Form Approved.  
OMB No. 2040-0004  
Approval expires 05-31-98

MONITORING PERIOD					
YEAR	MO	DAY	YEAR	MO	DAY
98	09	01	98	09	30
(20-21) (22-23) (24-25)			(26-27) (28-29) (30-31)		

NOTE: Read instructions before completing this form.

PARAMETER (32-37)		QUANTITY OR LOADING (46-53)			QUANTITY OR CONCENTRATION (54-61)				NO. EX (62-63)	FREQUENCY OF ANALYSIS (64-68)	SAMPLE TYPE (69-70)					
		AVERAGE	MAXIMUM	UNITS	MINIMUM	AVERAGE	MAXIMUM	UNITS								
FLOW	SAMPLE MEASUREMENT	7,333		GPD					0	N/A	EST.					
	PERMIT REQUIREMENT															
TEMP	SAMPLE MEASUREMENT				61	65	68	F	0	1/7	GRAB					
	PERMIT REQUIREMENT				N/A	N/A	N/A									
PH	SAMPLE MEASUREMENT				6.8	6.9	7.0	SU	0	1/7	GRAB					
	PERMIT REQUIREMENT				6.0		9.0									
OIL & GREASE	SAMPLE MEASUREMENT				N.D.	N.D.	N.D.	MG/L	0	1/7	GRAB					
	PERMIT REQUIREMENT				0	10	15									
PHENOLS	SAMPLE MEASUREMENT				.05	.05	.05	MG/L	0	1/30	GRAB					
	PERMIT REQUIREMENT				0	.5	.7									
	SAMPLE MEASUREMENT															
	PERMIT REQUIREMENT															
	SAMPLE MEASUREMENT															
	PERMIT REQUIREMENT															
NAME/TITLE PRINCIPAL EXECUTIVE OFFICER		I CERTIFY UNDER PENALTY OF LAW THAT I HAVE PERSONALLY EXAMINED AND AM FAMILIAR WITH THE INFORMATION SUBMITTED HEREIN; AND BASED ON MY INQUIRY OF THOSE INDIVIDUALS IMMEDIATELY RESPONSIBLE FOR OBTAINING THE INFORMATION, I BELIEVE THE SUBMITTED INFORMATION IS TRUE, ACCURATE AND COMPLETE. I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION, INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT. SEE 18 U.S.C. § 1001 AND 33 U.S.C. § 1318. (Penalties under these statutes may include fines up to \$10,000 and/or maximum imprisonment of between 6 months and 5 years.)					TELEPHONE		DATE							
R. D. Collins, V. P.							Amos S. Kamerer, Plt. Mgr.									
TYPED OR PRINTED							SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT		503 AREA CODE	286-3681 NUMBER	98 YEAR	10 MO	01 DAY			

COMMENTS AND EXPLANATION OF ANY VIOLATIONS (Reference all attachments here)

Third quarter PAH results are attached.

cc: J. Holtrop-City of Portland, T.I. Self - KII

SEP-22-'98 TUE 16:56 ID: .

TEL NO:

#566 P82



## CERTIFICATE OF ANALYSIS

CLIENT: KOPPERS INDUSTRIES, INC.  
7540 NW ST. HELENS ROAD  
PORTLAND OR 97210-3663

PHONE: (503) 286-3681  
FAX: (503) 285-2831

DATE SUBMITTED: 09/18/98

PO#:

PROJECT NAME: WMTks 1 Through 6

CI SAMPLE #	CLIENTS ID#	DATE	TIME	DESCRIPTION
981304-001		09/18/98	1300	WMTks (1-6)
981304-001		09/18/98	1300	WMTks (1-6)

REPORT DATE: 09/22/98

REPORT NUMBER: 981304

PAGE: 1 OF 2

SAMPLE	ANALYSIS	PARAMETER	RESULT	UNIT	DETECTION LIMIT	ANALYST
WMTks (1-6)						
981304-001	ORG. TOTAL. GRAY EPA 413.1/9870	TOTAL OIL & GREASE	ND	PPM	2	Gordon L.
981304-001	PHENOLS, TOTAL EPA 420.1	TOTAL RECOVERABLE PHENOLICS	0.052	PPM	0.05	Abigail K.
981304-001	PPAH 2 EPA 825 (SIM)	ACENAPHTHENE	10.0	ug/l	0.05	Jacob F.
		ACENAPHTHYLENE	8.4	ug/l	0.05	
		ANTHRACENE	5.6	ug/l	0.05	
		BENZO(A)ANTHRACENE	41.	ug/l	0.05	
		BENZO(A)PYRENE	73.	ug/l	0.2	
		BENZO(B)FLUORANTHENE	55.	ug/l	0.2	
		BENZO(GHI)PERYLENE	63.	ug/l	0.5	
		BENZO(K)FLUORANTHENE	55.	ug/l	0.2	
		CHRYSENE	47.	ug/l	0.05	
		DIBENZO(AH)ANTHRACENE	12.	ug/l	0.3	
		FLUORANTHENE	44.	ug/l	0.05	

REVIEWED BY:

Richard D. Reid - Laboratory Director



## CERTIFICATE OF ANALYSIS

REPORT DATE: 09/22/98

REPORT NUMBER: 981304

PAGE: 2 OF 2

SAMPLE	ANALYSIS	PARAMETER	RESULT	UNIT	DETECTION LIMIT	ANALYST
MTKs (1-6)						
981304-001	PAH 2 EPA 625 (SIM)	FLUORENE	9.7	ug/l	0.05	Jacob F.
		INDENO(1,2,3-CD)PYRENE	79.	ug/l	0.4	
		NAPHTHALENE	1.9	ug/l	0.05	
		PHENANTHRENE	24.	ug/l	0.05	
		PYRENE	43.	ug/l	0.05	
			571.6			
		SURROGATE	67%		% RECOVERY 50%-150%	

PERMITTEE NAME/ADDRESS (Include Facility Name/ Location (if Different))  
NAME Koppers Industries Inc  
ADDRESS 7540 NW St. Helens Rd.  
Portland, OR 97210

FACILITY NW Terminal  
LOCATION Multnomah Co.

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)  
DISCHARGE MONITORING REPORT (DMR)  
(2-18) (17-19)

101003  
PERMIT NUMBER

001  
DISCHARGE NUMBER

3077-J  
47430

Form Approved  
OMB No. 2040-0004  
Approval expires 05-31-98

MONITORING PERIOD

FROM YEAR MO DAY TO YEAR MO DAY  
98 12 01 98 12 31  
(20-21) (22-23) (24-25) (26-27) (28-29) (30-31)

NOTE: Read instructions before completing this form.

PARAMETER (32-37)	X	QUANTITY OR LOADING (46-53)			QUANTITY OR CONCENTRATION (46-53)			UNITS	NO. EX (62-63)	FREQUENCY OF ANALYSIS (64-66)	SAMPLE TYPE (69-70)
		AVERAGE (54-57)	MAXIMUM (54-57)	UNITS (54-57)	MINIMUM (54-57)	AVERAGE (54-57)	MAXIMUM (54-57)				
FLOW	SAMPLE MEASUREMENT	52,580		GPD					0	N/A	EST.
	PERMIT REQUIREMENT										
TEMP	SAMPLE MEASUREMENT				7.0	10.7	13.6	°C	0	1/7	GRAB
	PERMIT REQUIREMENT				N/A	N/A	N/A				
pH	SAMPLE MEASUREMENT				7.0	7.1	7.4	SU	0	1/7	GRAB
	PERMIT REQUIREMENT				6.0		9.0				
OIL & GREASE	SAMPLE MEASUREMENT				N.D.	2.0	3.0	Mg/L	0	1/7	GRAB
	PERMIT REQUIREMENT				0	10	15				
PHENOLS	SAMPLE MEASUREMENT				N.D.	N.D.	N.D.	Mg/L	0	1/30	GRAB
	PERMIT REQUIREMENT				0	.5	.7				

Post-It® Fax Note 7671 Date # of pages

To TRACY SELF From CAROL-PORTLAND

Co./Dept. Co.

Phone # Phone #

Fax # Fax #

COPY of DMR Report

NAME/TITLE R.D. COLLINS, V.P.

TYPED OR PRINTED

COMMENTS AND EXPLANATION OF ANY VIOLATIONS (Reference all attachments here)

TELEPHONE 503 286 3681 DATE 99 01 05

SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT

AREA CODE NUMBER YEAR MO DAY

cc: J. HOLTROP-City of Portland, T.I. Self-KII

PERMITTEE NAME/ADDRESS (Include Facility Name/Location (if different))

NAME Koppers Industries, Inc.

ADDRESS 7540 NW Saint Helens Road  
Portland, OR 97210

FACILITY NW Terminal

LOCATION Multnomah County

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)

DISCHARGE MONITORING REPORT (DMR)

101003	001
PERMIT NUMBER	DISCHARGE NUMBER

Form Approved.

OMB No. 2040-0004

Approval expires 05-31-98

MONITORING PERIOD							
FROM	YEAR	MO	DAY	TO	YEAR	MO	DAY
	98	07	01		98	07	31
	(20-21)	(22-23)	(24-25)		(26-27)	(28-29)	(30-31)

NOTE: Read instructions before completing this form.

PARAMETER (32-37)		(3 Card Only) (46-53) QUANTITY OR LOADING (54-61)			(4 Card Only) (38-45) QUANTITY OR CONCENTRATION (46-53) (54-61)				NO. EX (62-63)	FREQUENCY OF ANALYSIS (64-68)	SAMPLE TYPE (69-70)
		AVERAGE	MAXIMUM	UNITS	MINIMUM	AVERAGE	MAXIMUM	UNITS			
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
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	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER	I CERTIFY UNDER PENALTY OF LAW THAT I HAVE PERSONALLY EXAMINED AND AM FAMILIAR WITH THE INFORMATION SUBMITTED HEREIN; AND BASED ON MY INQUIRY OF THOSE INDIVIDUALS IMMEDIATELY RESPONSIBLE FOR OBTAINING THE INFORMATION, I BELIEVE THE SUBMITTED INFORMATION IS TRUE, ACCURATE AND COMPLETE. I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION, INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT. SEE 18 U.S.C. § 1001 AND 33 U.S.C. § 1319. (Penalties under these statutes may include fines up to \$10,000 and/or maximum imprisonment of between 6 months and 5 years.)	TELEPHONE	DATE	
R. D. Collins, V.P. TYPED OR PRINTED		503   286-3681 AREA CODE NUMBER	98   08   03 YEAR MO DAY	

COMMENTS AND EXPLANATION OF ANY VIOLATIONS (Reference all attachments here)

Nothing to report, no discharges during the month.

FAX NO. 503 285 2831

KOPPERS IND

AUG- 3-98 MON 11:12 AM

P. 1

Koppers001678

PERMITTEE NAME/ADDRESS (Include Facility Name/Location if Different)  
NAME Koppers Industries, Inc.

ADDRESS 7540 NW Saint Helens Road  
Portland, OR 97210

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)  
DISCHARGE MONITORING REPORT (DMR)  
(12-16) (17-19)

101003  
PERMIT NUMBER

001  
DISCHARGE NUMBER

Form Approved.  
OMB No. 2040-0004  
Approval expires 05-31-98

P. 2

FACILITY NW Terminal  
LOCATION Multnomah County

MONITORING PERIOD					
YEAR	MO	DAY	YEAR	MO	DAY
98	06	01	98	06	30

FROM (20-21) (22-23) (24-25) TO (26-27) (28-29) (30-31)

NOTE: Read instructions before completing this form.

PARAMETER (32-37)		(3 Card Only) QUANTITY OR LOADING (46-53)			(4 Card Only) QUANTITY OR CONCENTRATION (46-53)			NO. EX (62-63)	FREQUENCY OF ANALYSIS (64-68)	SAMPLE TYPE (69-70)		
		AVERAGE	MAXIMUM	UNITS	MINIMUM	AVERAGE	MAXIMUM					
FLOW	SAMPLE MEASUREMENT	7330		GPD				0	N/A	EST.		
	PERMIT REQUIREMENT											
TEMP.	SAMPLE MEASUREMENT				63	64	65	0	1/7	GRAB		
	PERMIT REQUIREMENT				N/A	N/A	N/A					
pH	SAMPLE MEASUREMENT				6.8	6.85	6.9	0	1/7	GRAB		
	PERMIT REQUIREMENT				6.0		9.0					
OIL & GREASE	SAMPLE MEASUREMENT				2.8	2.8	2.8	0	1/7	GRAB		
	PERMIT REQUIREMENT				0	10	15					
PHENOLS	SAMPLE MEASUREMENT				.12	.12	.12	0	1/30	GRAB		
	PERMIT REQUIREMENT				0	.5	.7					
	SAMPLE MEASUREMENT											
	PERMIT REQUIREMENT											
	SAMPLE MEASUREMENT											
	PERMIT REQUIREMENT											
NAME/TITLE PRINCIPAL EXECUTIVE OFFICER		I CERTIFY UNDER PENALTY OF LAW THAT I HAVE PERSONALLY EXAMINED AND AM FAMILIAR WITH THE INFORMATION SUBMITTED HEREIN; AND BASED ON MY INQUIRY OF THOSE INDIVIDUALS IMMEDIATELY RESPONSIBLE FOR OBTAINING THE INFORMATION, I BELIEVE THE SUBMITTED INFORMATION IS TRUE, ACCURATE AND COMPLETE. I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION, INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT. SEE 18 U.S.C. § 1001 AND 33 U.S.C. § 1319. (Penalties under these statutes may include fines up to \$10,000 and/or maximum imprisonment of between 6 months and 5 years.)						TELEPHONE		DATE		
R. D. Collins, V.P.												
TYPED OR PRINTED		Amos S. Kamerer, Plt. Mgr.						503 286-3681		98 07 01		
		SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT						AREA CODE NUMBER		YEAR MO DAY		

COMMENTS AND EXPLANATION OF ANY VIOLATIONS (Reference all attachments here)

JAN-17-'98 TUE 00:52 1D:

TEL NO:

H069 P01



## CERTIFICATE OF ANALYSIS

CLIENT: KOPPERS INDUSTRIES, INC.  
7540 NW ST. HELENS ROAD  
PORTLAND OR 97210-3663

PHONE: (503) 286-3681  
FAX: (503) 285-2831

DATE SUBMITTED: 06/24/98

PO#:

PROJECT NAME: WTKS 2-4-6

CI SAMPLE #	CLIENTS ID#	DATE	TIME	DESCRIPTION
980900-001-01		06/24/98	1100	Wastewater from Tks 2-4-6
980900-001-02		06/24/98	1100	Wastewater from Tks 2-4-6

REPORT DATE: 06/25/98

REPORT NUMBER: 980900

PAGE: 1 OF 1

SAMPLE	TEST	PARAMETER	RESULT	UNIT	DETECTION LIMIT	ANALYST
Wastewater from Tks 2-4-6						
980900-001-01	ORG, TOTAL, GRAV EPA 413.1/9070	TOTAL OIL & GREASE	2.8	PPM	2	Gordon L.
980900-001-02	PHENOLS, TOTAL EPA 420.1	TOTAL RECOVERABLE PHENOLICS	0.12	PPM	0.05	Abigail K.

DRAFT REPORT - THIS REPORT HAS NOT UNDERGONE FINAL QUALITY ASSURANCE REVIEW.

COLUMBIA INSPECTION, INC. 7133 N Lombard St. - Portland, OR 97203 (503) 286-9464 Fax (503) 286-5355

Koppers001680

**KOPPERS  
INDUSTRIES**

FAX TRANSMITTAL

Koppers Industries, Inc.  
7540 N.W. St. Helens Road  
Portland, OR 97210-3663

Telephone: 503-286-3681  
Fax: 503-285-2831

TO: T.I. Self

DATE: 6.30.98

FROM: Koppers - NW Terminal

TOTAL # OF PAGES: 3

NPDES for June 1998

IF THIS TRANSMITTAL IS IN ERROR, PLEASE CALL 503-286-3681 FAX # 503-285-2831

PERMITTEE NAME/ADDRESS (Include Facility Name/Location if Different)  
NAME Koppers Industries, Inc.

ADDRESS 540 NW Saint Helens Road  
Portland, OR 97210

FACILITY NW Terminal  
LOCATION Multnomah County

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)  
DISCHARGE MONITORING REPORT (DMR)

101003  
PERMIT NUMBER

001  
DISCHARGE NUMBER

Form Approved.  
OMB No. 2040-0004  
Approval expires 05-31-98

MONITORING PERIOD					
YEAR	MO	DAY	YEAR	MO	DAY
98	05	01	98	05	31
(20-21) (22-23) (24-25)			(26-27) (28-29) (30-31)		

NOTE: Read instructions before completing this form.

PARAMETER (32-37)		(3 Card Only) QUANTITY OR LOADING (46-53)			(4 Card Only) QUANTITY OR CONCENTRATION (46-53) (54-61)				NO. EX (62-63)	FREQUENCY OF ANALYSIS (64-68)	SAMPLE TYPE (69-70)
		AVERAGE	MAXIMUM	UNITS	MINIMUM	AVERAGE	MAXIMUM	UNITS			
FLOW	SAMPLE MEASUREMENT	21,903		GPD					0	N/A	EST.
	PERMIT REQUIREMENT										
TEMP.	SAMPLE MEASUREMENT				59	60	61	F	0	1/7	GRAB
	PERMIT REQUIREMENT				N/A	N/A	N/A				
pH	SAMPLE MEASUREMENT				7.0	7.0	7.1	SU	0	1/7	GRAB
	PERMIT REQUIREMENT				6.0		9.0				
OIL & GREASE	SAMPLE MEASUREMENT				N.D.	1.5	2.4	MG/L	0	1/7	GRAB
	PERMIT REQUIREMENT				0	10	15				
PHENOLS	SAMPLE MEASUREMENT				.05	.05	.05	MG/L	0	1/30	GRAB
	PERMIT REQUIREMENT				0	.5	.7				
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
NAME/TITLE PRINCIPAL EXECUTIVE OFFICER		I CERTIFY UNDER PENALTY OF LAW THAT I HAVE PERSONALLY EXAMINED AND AM FAMILIAR WITH THE INFORMATION SUBMITTED HEREIN AND BASED ON MY INQUIRY OF THOSE INDIVIDUALS IMMEDIATELY RESPONSIBLE FOR OBTAINING THE INFORMATION, I BELIEVE THE SUBMITTED INFORMATION IS TRUE, ACCURATE AND COMPLETE. I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION, INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT. SEE 18 U.S.C. § 1001 AND 33 U.S.C. § 1315. (Penalties under these statutes may include fines up to \$10,000 and/or maximum imprisonment of between 6 months and 5 years.)						TELEPHONE		DATE	
R. D. Collins, V. P.											
TYPED OR PRINTED		Signature of R. D. Collins, V. P.						503 286-3681		98 05 04	
		Signature of R. D. Collins, V. P.						AREA CODE NUMBER		YEAR MO DAY	

COMMENTS AND EXPLANATION OF ANY VIOLATIONS (Reference all attachments here)



## CERTIFICATE OF ANALYSIS

CLIENT: KOPPERS INDUSTRIES, INC.  
7540 NW ST. HELENS ROAD  
PORTLAND OR 97210-3663

PHONE: (503) 286-3681  
FAX: (503) 285-2831

DATE SUBMITTED: 05/27/98

PO#:

PROJECT NAME:

CI SAMPLE #	CLIENTS ID#	DATE	TIME	DESCRIPTION
-------------	-------------	------	------	-------------

980765-001-01		05/27/98	0900	NW TKS 2.4.6
---------------	--	----------	------	--------------

REPORT DATE: 05/28/98

REPORT NUMBER: 980765

PAGE: 1 OF 1

SAMPLE	TEST	PARAMETER	RESULT	UNIT	DETECTION LIMIT	ANALYST
NW TKS 2.4.6						
980765-001-01	O&G, TOTAL, GRAV EPA 413.1/9070	TOTAL OIL & GREASE	ND	PPM	2	Gordon L.

DRAFT REPORT - THIS REPORT HAS NOT UNDERGONE FINAL QUALITY ASSURANCE REVIEW.

COLUMBIA INSPECTION, INC. 7133 N Lombard St. - Portland, OR 97203 (503) 286-9464 Fax (503) 286-5355





## CERTIFICATE OF ANALYSIS

CLIENT: KOPPERS INDUSTRIES, INC.  
7540 NW ST. HELENS ROAD  
PORTLAND OR 97210-3663

PHONE: (503) 286-3681  
FAX: (503) 285-2831

DATE SUBMITTED: 05/13/98

PROJECT NAME: WASTE WATER ANALYSIS

CI SAMPLE #	CLIENTS ID#	DATE	TIME	DESCRIPTION
-------------	-------------	------	------	-------------

980700-001-01		05/13/98	1430	NW TANKS 2,4,6 GRAB SAMPLE
980700-001-02		05/13/98	1430	NW TANKS 2,4,6 GRAB SAMPLE

REPORT DATE: 05/15/98

REPORT NUMBER: 980700

PAGE: 1 OF 1

SAMPLE	ANALYSIS	PARAMETER	RESULT	UNIT	DETECTION (LIMIT)	ANALYST
NW TANKS 2,4,6 GRAB SAMPLE						
980700-001-01	O&G, TOTAL, GRAB EPA 413.1/9070	TOTAL OIL & GREASE	2.1	PPM	2	Gordon L.
	PHENOLS, TOTAL EPA 420.1	TOTAL RECOVERABLE PHENOLICS	<0.05	PPM	0.05	Abigail K.

REVIEWED BY:

Martin Little - Laboratory Manager



## CERTIFICATE OF ANALYSIS

CLIENT: KOPPERS INDUSTRIES, INC.  
7540 NW ST. HELENS ROAD  
PORTLAND OR 97210-3653

PHONE: (503) 286-3681  
FAX: (503) 285-2831

DATE SUBMITTED: 05/19/98

PO#:

PROJECT NAME: WW TKS 1,3,5

CI SAMPLE #	CLIENTS ID#	DATE	TIME	DESCRIPTION
980726-001-01		05/19/98	1000	

REPORT DATE: 05/20/98

REPORT NUMBER: 980726

PAGE: 1 OF 1

SAMPLE	TEST	PARAMETER	RESULT	UNIT	DETECTION LIMIT	ANALYST
WW Tks 1,3,5 980726-001-01	O&G, TOTAL, GRAV EPA 413.1/9070	TOTAL OIL & GREASE	2.4	PPM	2	Gordon L.

DRAFT REPORT - THIS REPORT HAS NOT UNDERGONE FINAL QUALITY ASSURANCE REVIEW.

COLUMBIA INSPECTION, INC. 7133 N Lombard St. - Portland, OR 97203 (503) 286-9464 Fax (503) 286-5355

**KOPPERS  
INDUSTRIES**

FAX TRANSMITTAL

Koppers Industries, Inc.  
7540 N.W. St. Helens Road  
Portland, OR 97210-3683

Telephone: 503-286-3681  
Fax: 503-285-2831

TO: T.I. Self K:1800 DATE: 6-5-98  
FROM: Erin Pollot - Portland, OR TOTAL # OF PAGES: 5

Here's our Discharge Monitoring Report for  
May 1998.

IF THIS TRANSMITTAL IS IN ERROR. PLEASE CALL 503-286-3681 FAX # 503-285-2831

PERMITTEE NAME/ADDRESS (Include Facility Name/Location if Different)  
NAME Koppers Industries, Inc.  
ADDRESS 7540 NW St Helens Road  
Portland, OR 97210

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)  
DISCHARGE MONITORING REPORT (DMR)  
(2-18) (17-19)

101003  
PERMIT NUMBER

001  
DISCHARGE NUMBER

Form Approved.  
OMB No. 2040-0004  
Approval expires 05-31-98

FACILITY NW Terminal  
LOCATION Multnomah County

MONITORING PERIOD  
FROM YEAR MO DAY TO YEAR MO DAY  
98 04 01 98 04 30  
(20-21) (22-23) (24-25) (26-27) (28-29) (30-31)

NOTE: Read instructions before completing this form.

PARAMETER (32-37)		(3 Card Only) (46-53) QUANTITY OR LOADING (54-61)			(4 Card Only) (38-45) QUANTITY OR CONCENTRATION (46-53) (54-61)				NO. EX (62-63)	FREQUENCY OF ANALYSIS (64-68)	SAMPLE TYPE (69-70)
		AVERAGE	MAXIMUM	UNITS	MINIMUM	AVERAGE	MAXIMUM	UNITS			
Flow	SAMPLE MEASUREMENT	7,333		GPD					0	N/A	EST.
	PERMIT REQUIREMENT										
Temp.	SAMPLE MEASUREMENT				58	59	59	°F	0	1/7	GRAB
	PERMIT REQUIREMENT				N/A	N/A	N/A				
pH	SAMPLE MEASUREMENT				6.8	6.9	6.9	SU	0	1/7	GRAB
	PERMIT REQUIREMENT				6.0		9.0				
Oil & Grease	SAMPLE MEASUREMENT				5.4	5.4	5.4	MG/L	0	1/70	GRAB
	PERMIT REQUIREMENT				0	10	15				
Phenols	SAMPLE MEASUREMENT				.05	.05	.05	MG/L	0	1/30	GRAB
	PERMIT REQUIREMENT				0	.5	.7				
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
NAME/TITLE PRINCIPAL EXECUTIVE OFFICER		I CERTIFY UNDER PENALTY OF LAW THAT I HAVE PERSONALLY EXAMINED AND AM FAMILIAR WITH THE INFORMATION SUBMITTED HEREIN; AND BASED ON MY INQUIRY OF THOSE INDIVIDUALS IMMEDIATELY RESPONSIBLE FOR OBTAINING THE INFORMATION, I BELIEVE THE SUBMITTED INFORMATION IS TRUE, ACCURATE AND COMPLETE. I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION, INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT. SEE 19 U.S.C. § 1001 AND 39 U.S.C. § 1318. (Penalties under these statutes may include fines up to \$10,000 and/or maximum imprisonment of between 6 months and 5 years.)				TELEPHONE		DATE			
R.D. Collins, V.P. TYPED OR PRINTED		APR 5 S. Kamerer, PLT MGR SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT				503 286-3681 AREA CODE NUMBER		98 05 07 YEAR MO DAY			

COMMENTS AND EXPLANATION OF ANY VIOLATIONS (Reference all attachments here)

Second quarter PAH results are attached.



# CERTIFICATE OF ANALYSIS

CLIENT: KOPPERS INDUSTRIES, INC.  
7540 NW ST. HELENS ROAD  
PORTLAND OR 97210-3663

PHONE: (503) 286-3681  
FAX: (503) 285-2831

DATE SUBMITTED: 04/23/98

PROJECT NAME: TANK 1-3-5 WASTE WATER ANALYSIS

CI SAMPLE #	CLIENTS ID#	DATE	TIME	DESCRIPTION
980581-001-01		04/23/98	1300	TANK 1-3-5 WASTE WATER GRAB SAMPLE
980581-001-02		04/23/98	1300	TANK 1-3-5 WASTE WATER GRAB SAMPLE
980581-001-03		04/23/98	1300	TANK 1-3-5 WASTE WATER GRAB SAMPLE

REPORT DATE: 04/28/98

REPORT NUMBER: 980581

PAGE: 1 OF 1

SAMPLE	ANALYSIS	PARAMETER	RESULT	UNIT	DETECTION LIMIT	ANALYST
TANK 1-3-5 WASTE WATER GRAB SAMPLE						
980581-001	O&G, TOTAL, GRAB EPA 413.1/9070	TOTAL OIL & GREASE	5.4	PPM	2	Gordon L.
	PHENOLS, TOTAL EPA 420.1	TOTAL RECOVERABLE PHENOLICS	<0.05	PPM	0.05	Abigail K.
	PAHs 2 EPA 625 (SIM)	ACENAPHTHENE	2.5	ug/l	0.05	Jacob L.
		ACENAPHTHYLENE	0.24	ug/l	0.05	
		ANTHRACENE	2.3	ug/l	0.05	
		BENZO(A)ANTHRACENE	26	ug/l	0.05	
		BENZO(A)PYRENE	45	ug/l	0.2	
		BENZO(B)FLUORANTHENE	36	ug/l	0.2	
		BENZO(GH)PERYLENE	34	ug/l	0.5	
		BENZO(K)FLUORANTHENE	36	ug/l	0.2	
		CHRYSENE	29	ug/l	0.05	
		DIBENZO(AH)ANTHRACENE	5.8	ug/l	0.3	
		FLUORANTHENE	31	ug/l	0.05	
		FLUORENE	1.4	ug/l	0.05	
		INDENO(1,2,3-CD)PYRENE	47	ug/l	0.4	
		NAPHTHALENE	0.24	ug/l	0.05	
		PHENANTHRENE	12	ug/l	0.05	
		PYRENE	30	ug/l	0.05	
			339.48			
		SURROGATE	109%		% RECOVERY 50%-150%	

REVIEWED BY:

Martin Little - Laboratory Manager

COLUMBIA INSPECTION, INC. 7133 N Lombard St. - Portland, OR 97203 (503) 286-9464 Fax (503) 286-5356

**KOPPERS  
INDUSTRIES**

FAX TRANSMITTAL

Koppers Industries, Inc.  
7540 N.W. St. Helens Road  
Portland, OR 97210-3663

Telephone: 503-286-3681  
Fax: 503-285-2831

TO: T.I. Self

DATE: 5.7.98

FROM: Erin

TOTAL # OF PAGES: 3

Tracy,

Here is the NPDES for April 1998.

IF THIS TRANSMITTAL IS IN ERROR, PLEASE CALL 503-286-3681 FAX # 503-285-2831

ADDRESS 7540 NW St Helens Road  
Portland, OR 97210

**NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)  
DISCHARGE MONITORING REPORT (DMR)**  
**12-16) 117-19)**

101003
PERMIT NUMBER


001  
DISCHARGE NUMBER

Form Approved.  
OMB No. 2040-0004  
Approved expires 05-31-98

FACILITY NW Terminal  
LOCATION Multnomah County

MONITORING PERIOD								
YEAR			MO			DAY		
FROM	98	03	01	TO	98	03	31	
	(20-21)	(22-23)	(24-25)		(26-27)	(28-29)	(30-31)	

**NOTE: Read instructions before completing this form.**

PARAMETER (32-37)		QUANTITY OR LOADING (13 Card Only) (46-53)			CONCENTRATION (14 Card Only) (38-45)				FREQUENCY OF ANALYSIS (15-17) (54-61)			NO. EX (18-23)	SAMPLE TYPE (62-70)
		AVERAGE	MAXIMUM	UNITS	MINIMUM	AVERAGE	MAXIMUM	UNITS					
Flow	SAMPLE MEASUREMENT	21,290		GPD									EST.
	PERMIT REQUIREMENT												
Temp.	SAMPLE MEASUREMENT				52	55	58	°F					GRAB
	PERMIT REQUIREMENT				N/A	N/A	N/A						
pH	SAMPLE MEASUREMENT				6.9	7.0	7.1	SU					GRAB
	PERMIT REQUIREMENT				6.0		9.0						
Oil & Grease	SAMPLE MEASUREMENT				2.5	3.8	4.1	MG/L					GRAB
	PERMIT REQUIREMENT				0	10	15						
Phenols	SAMPLE MEASUREMENT				.13	.13	.13	MG/L					GRAB
	PERMIT REQUIREMENT				0	.5	.7						
	SAMPLE												

Post-It™ brand fax transmittal memo 7671 # of pages 1

To Tracy Self	From Erin Pollot
Co.	Co. Portland
Dept.	Phone #
Fax #	Fax #

NAME/TITLE PRINCIPAL EXECUTIVE

R.D. Collins, V.P.

TYPED OR PRINTED

VERIFICATION OF INFORMATION: I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION, INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT. SEE 18 U.S.C. 1001 AND 33 U.S.C. 1316. Penalties under these statutes may include fines up to \$10,000 and/or maximum imprisonment of between 6 months and 5 years.

SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT

Amos B. Kamerer, PLT MGR

TELEPHONE

503 286-3681

DATE

98 04 23

col. J. Holtron - City of Portland. M T Self - VTT

APR-24-98 FRI 9:22 AM KOPPERS. IND

FAX NO. 503 285 2831

P. 1

Koppers001690

PERMITTEE NAME/ADDRESS (Include Facility Name/Location if Different)  
NAME KOPPERS INDUSTRIES INC

ADDRESS 7540 NW ST HELENS RD  
PORTLAND, OR 97210

FACILITY NW TERMINAL  
LOCATION MULTNOMAH CO.

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)  
DISCHARGE MONITORING REPORT (DMR)  
(2-16) (17-19)

101003  
PERMIT NUMBER

001  
DISCHARGE NUMBER


3077-J

47430

Form Approved  
OMB No: 2040-0004  
Approval expires 05-31-98

MONITORING PERIOD						
YEAR	MO	DAY	TO	YEAR	MO	DAY
98	02	01	TO	98	02	28
(20-21) (22-23) (24-25) (26-27) (28-29) (30-31)						

NOTE: Read instructions before completing this form.

PARAMETER (32-37)		(3 Card Only) QUANTITY OR LOADING (48-53)			(4 Card Only) QUANTITY OR CONCENTRATION (48-53)				NO. EX (112-637)	FREQUENCY OF ANALYSIS (64-68)	SAMPLE TYPE (69-70)						
		AVERAGE	MAXIMUM	UNITS	MINIMUM	AVERAGE	MAXIMUM	UNITS									
FLOW	SAMPLE MEASUREMENT	31,429		GPD					0	N/A	EST						
	PERMIT REQUIREMENT																
TEMP.	SAMPLE MEASUREMENT				49	52	57	OF	0	1/7	GRAB						
	PERMIT REQUIREMENT				N/A	N/A	N/A										
pH	SAMPLE MEASUREMENT				6.8	7.0	7.1	SU	0	1/7	GRAB						
	PERMIT REQUIREMENT				6.0	—	9.0										
OIL & GREASE	SAMPLE MEASUREMENT				2.1	3.3	4.4	mg/L	0	1/7	GRAB						
	PERMIT REQUIREMENT				0	10	15										
PHENOLS	SAMPLE MEASUREMENT				.05	.05	.05	mg/L	0	1/30	GRAB						
	PERMIT REQUIREMENT				N/A	.5	.7										
	SAMPLE MEASUREMENT																
	PERMIT REQUIREMENT																
	SAMPLE MEASUREMENT																
	PERMIT REQUIREMENT																
NAME/TITLE PRINCIPAL EXECUTIVE OFFICER		I CERTIFY UNDER PENALTY OF LAW THAT I HAVE PERSONALLY EXAMINED AND AM FAMILIAR WITH THE INFORMATION SUBMITTED HEREIN; AND BASED ON MY INQUIRY OF THOSE INDIVIDUALS IMMEDIATELY RESPONSIBLE FOR OBTAINING THE INFORMATION, I BELIEVE THE SUBMITTED INFORMATION IS TRUE, ACCURATE AND COMPLETE. I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION, INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT. SEE 18 U.S.C. 1 1001 AND 33 U.S.C. 1 1310. Penalties under these statutes may include fines up to \$10,000 and/or maximum imprisonment of between 6 months and 5 years.						TELEPHONE		DATE							
R.D. COLLINS, V.P.								503 286 3681		98 03 02							
TYPED OR PRINTED								AREA CODE	NUMBER	YEAR	MO DAY						
COMMENTS AND EXPLANATION OF ANY VIOLATIONS (Reference all attachments here)		MICHAEL S. KAMERER, PLT MGR						SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT									

MAR-2-98 MON 6:06 PM KOPPERS IND

FAX NO. 503 285 2831

P. 2

Koppers001691



# CERTIFICATE OF ANALYSIS

CLIENT: KOPPERS INDUSTRIES, INC.  
7540 NW ST. HELENS ROAD  
PORTLAND OR 97210-3663

PHONE: (503) 286-3681  
FAX: (503) 285-2831

DATE SUBMITTED: 02/24/98

PO#:

PROJECT NAME: W W TKS 1-3-5

CI SAMPLE #	CLIENTS ID#	DATE	TIME	DESCRIPTION
-------------	-------------	------	------	-------------

980243-001-01		02/24/98	1100	WW Tks 1-3-5 GRAB SAMPLE
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REPORT DATE: 02/25/98

REPORT NUMBER: 980243


PAGE: 1 OF 1

SAMPLE	ANALYSIS	PARAMETER	RESULT	UNIT	DETECTION LIMIT	ANALYST
--------	----------	-----------	--------	------	--------------------	---------

WW Tks 1-3-5 GRAB SAMPLE

980243-001-01	O&G, TOTAL, GRAY EPA 413.1/9070	TOTAL OIL & GREASE	4.1	PPH	2	Gordon L.
---------------	------------------------------------	--------------------	-----	-----	---	-----------

REVIEWED BY:

  
Richard D. Reid - Laboratory Director

FEB-19-'98 THU 13:40 ID:

TEL NO:

#628 P02



## CERTIFICATE OF ANALYSIS

CLIENT: KOPPERS INDUSTRIES, INC.  
7540 NW ST. HELENS ROAD  
PORTLAND OR 97210-3663

PHONE: (503) 286-3683  
FAX: (503) 285-2831

DATE SUBMITTED: 02/18/98

POF:

PROJECT NAME: WASTE WATER ANALYSIS

CI SAMPLE #	CLIENTS ID#	DATE	TIME	DESCRIPTION
-------------	-------------	------	------	-------------

980204-001-01		02/18/98	1000	TANKS 2-4-6 WASTE WATER GRAB SAMPLE
---------------	--	----------	------	-------------------------------------

REPORT DATE: 02/19/98

REPORT NUMBER: 980204

PAGE: 1 OF 1

SAMPLE	TEST	PARAMETER	RESULT	UNIT	DETECTION LIMIT	ANALYST
TANKS 2-4-6 WASTE WATER GRAB SAMPLE						
980204-001-01	O&G, TOTAL, GRAV EPA 413.1/9070	TOTAL OIL & GREASE	4.4	PPM	2	Gordon L.

DRAFT REPORT - THIS REPORT HAS NOT UNDERGONE FINAL QUALITY ASSURANCE REVIEW.

FEB-11-'98 WED 15:56 ID:

TEL NO:

H581 P02

# CERTIFICATE OF ANALYSIS

CLIENT: KOPPERS INDUSTRIES, INC.  
7540 NW ST. HELENS ROAD  
PORTLAND OR 97210-3663

PHONE: (503) 286-3681  
FAX: (503) 285-2831

DATE SUBMITTED: 02/11/98

PO#:

PROJECT NAME: WASTE WATER ANALYSIS

CI SAMPLE # CLIENTS ID# DATE TIME DESCRIPTION

980160-001-01 02/10/98 1300 TANKS 1-3-5 WASTE WATER GRAB SAMPLE

REPORT DATE: 02/11/98

REPORT NUMBER: 980160

PAGE: 1 OF 1

SAMPLE	TEST	PARAMETER	RESULT	UNIT	DETECTION LIMIT	ANALYST
TANKS 1-3-5 WASTE WATER GRAB SAMPLE						
980160-001-01	O&G, TOTAL, GRAB EPA 413.1/9070	TOTAL OIL & GREASE	2.4	PPM	2	Gordon L.

DRAFT REPORT - THIS REPORT HAS NOT UNDERGONE FINAL QUALITY ASSURANCE REVIEW.

Columbia Inspection, Inc. 7133 N Lombard St. - Portland, OR 97203 (503) 286-9464 Fax (503) 286-5355

# CERTIFICATE OF ANALYSIS

CLIENT: KOPPERS INDUSTRIES, INC.  
7540 NW ST. HELENS ROAD  
PORTLAND OR 97210-3663

PHONE: (503) 286-3681  
FAX: (503) 285-2831

DATE SUBMITTED: 02/02/98

PROJECT NAME: TANKS 2-4-6 WASTE WATER ANALYSIS

CI SAMPLE #	CLIENTS ID#	DATE	TIME	DESCRIPTION
-------------	-------------	------	------	-------------

980124-001-01		02/02/98	1300	TANKS 2-4-6 WASTE WATER GRAB SAMPLE
980124-001-02		02/02/98	1300	TANKS 2-4-6 WASTE WATER GRAB SAMPLE

REPORT DATE: 02/03/98

REPORT NUMBER: 980124

PAGE: 1 OF 1

SAMPLE	ANALYSIS	PARAMETER	RESULT	UNIT	DETECTION LIMIT	ANALYST
TANKS 2-4-6 WASTE WATER GRAB SAMPLE						
980124-001-01	O&G, TOTAL, GRAV EPA 413.1/9070	TOTAL OIL & GREASE	2.1	PPM	2	Gordon L.
TANKS 2-4-6 WASTE WATER GRAB SAMPLE						
980124-001-02	PHENOLS, TOTAL EPA 420.1	TOTAL RECOVERABLE PHENOLICS	<0.05	PPM	0.05	Abigail K.

REVIEWED BY:

  
Martin Little - Laboratory Manager

PERMITTEE NAME/ADDRESS (Include Facility Name; Location if Different)  
NAME KOPPERS INDUSTRIES INC.

ADDRESS 7540 NW ST HELENS RD  
PORTLAND, OR 97210

FACILITY MW TERMINAL  
LOCATION MULTNOMAH CO.

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)  
DISCHARGE MONITORING REPORT (DMR)  
(2-16) (17-19)

101003  
PERMIT NUMBER

001  
DISCHARGE NUMBER

3077-J  
47430

Form Approved.  
OMB No. 2040-0004  
Approval expires 05-31-98

MONITORING PERIOD					
YEAR	MO	DAY	YEAR	MO	DAY
98	01	01	98	01	31
(20-21) (22-23) (24-25)			(26-27) (28-29) (30-31)		

NOTE: Read instructions before completing this form.

PARAMETER (32-37)		QUANTITY OR LOADING (3 Card Only) (46-53)			QUANTITY OR CONCENTRATION (4 Card Only) (38-45)			NO. EX (62-63)	FREQUENCY OF ANALYSIS (64-68)	SAMPLE TYPE (69-70)	
		AVERAGE	MAXIMUM	UNITS	MINIMUM	AVERAGE	MAXIMUM				
FLOW	SAMPLE MEASUREMENT	21290		GPD				0	N/A	EST.	
	PERMIT REQUIREMENT										
TEMP	SAMPLE MEASUREMENT				38	45	56	0	1/7	GRAB	
	PERMIT REQUIREMENT				N/A	N/A	N/A				
PH	SAMPLE MEASUREMENT				6.9	7.0	7.0	0	1/7	GRAB	
	PERMIT REQUIREMENT				6.0		9.0				
OIL & GREASE	SAMPLE MEASUREMENT				N.D.	2.1	4.2	0	1/7	GRAB	
	PERMIT REQUIREMENT				0	10	15				
PHENOLS	SAMPLE MEASUREMENT				.15	.15	.15	0	1/30	GRAB	
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
NAME/TITLE PRINCIPAL EXECUTIVE OFFICER		I CERTIFY UNDER PENALTY OF LAW THAT I HAVE PERSONALLY EXAMINED AND AM FAMILIAR WITH THE INFORMATION SUBMITTED HEREIN; AND BASED ON MY INQUIRY OF THOSE INDIVIDUALS IMMEDIATELY RESPONSIBLE FOR OBTAINING THE INFORMATION, I BELIEVE THE SUBMITTED INFORMATION IS TRUE, ACCURATE AND COMPLETE. I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION, INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT. SEE 18 U.S.C. § 1001 AND 33 U.S.C. § 1318. (Penalties under these statutes may include fines up to \$10,000 and/or maximum imprisonment of between 6 months and 5 years.)						TELEPHONE		DATE	
R.D. COLLINS, VP											
TYPED OR PRINTED		AMOS S. KAMERER, PLT. MGR						503 286 3681		98 02 10	
		SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT						AREA CODE	NUMBER	YEAR	MO DAY

COMMENTS AND EXPLANATION OF ANY VIOLATIONS (Reference all attachments here)

FIRST QUARTER PAR RESULTS ARE ATTACHED

JAN-15-'98 THU 14:11 ID:

TEL NO:

#467 P02



## CERTIFICATE OF ANALYSIS

CLIENT: KOPPERS INDUSTRIES, INC.  
7540 NW ST. HELENS ROAD  
PORTLAND OR 97210-3663

PHONE: (503) 286-3681  
FAX: (503) 285-2831

DATE SUBMITTED: 01/14/98

PO#:

PROJECT NAME: WASTE WATER ANALYSIS

CI SAMPLE #	CLIENTS ID#	DATE	TIME	DESCRIPTION
980046-001-01		01/14/97	1300	TKS 2,4,6 WASTE WATER GRAB SAMPLE

REPORT DATE: 01/15/98

REPORT NUMBER: 980046

PAGE: 1 OF 1

SAMPLE	TEST	PARAMETER	RESULT	UNIT	DETECTION LIMIT	ANALYST
TKS 2,4,6 WASTE WATER GRAB SAMPLE						
980046-001-01	ORG, TOTAL, GRAV EPA 413.1/9070	TOTAL OIL & GREASE	4.2	PPM	2	Gordon L.

DRAFT REPORT - THIS REPORT HAS NOT UNDERGONE FINAL QUALITY ASSURANCE REVIEW.

Columbia Inspection, Inc. 7133 N Lombard St. - Portland, OR 97203 (503) 286-9464 Fax (503) 286-5355

JAN-06-'98 TUE 16:07 ID:

TEL NO:

H419 P02



## CERTIFICATE OF ANALYSIS

CLIENT: KOPPERS INDUSTRIES, INC.  
7540 NW ST. HELENS ROAD  
PORTLAND OR 97210-3663

PHONE: (503) 286-3681  
FAX: (503) 285-2831

DATE SUBMITTED: 01/03/98

PO#:

PROJECT NAME: WASTE WATER ANALYSIS

CI SAMPLE #	CLIENTS ID#	DATE	TIME	DESCRIPTION
980012-001-01		01/05/98	1400	TANKS 1,3,5 WASTE WATER SAMPLE
980012-001-02		01/05/98	1400	TANKS 1,3,5 WASTE WATER SAMPLE

REPORT DATE: 01/06/98

REPORT NUMBER: 980012

PAGE: 1 OF 1

SAMPLE	TEST	PARAMETER	RESULT	UNIT	DETECTION LIMIT	ANALYST
TANKS 1,3,5 WASTE WATER SAMPLE 980012-001-01	ORG. TOTAL, GRAV EPA 413.1/9070	TOTAL OIL & GREASE	ND	PPH	2	Gordon L.
TANKS 1,3,5 WASTE WATER SAMPLE 980012-001-02	PHENOLS, TOTAL EPA 420.1	TOTAL RECOVERABLE PHENOLICS	0.15	PPM	0.05	Abigail K.

DRAFT REPORT - THIS REPORT HAS NOT UNDERGONE FINAL QUALITY ASSURANCE REVIEW.

Columbia Inspection, Inc. 7193 N Lombard St. - Portland, OR 97203 (503) 286-9464 Fax (503) 286-5355

PERMITTEE NAME/ADDRESS (Include Facility Name, Location & Difference)  
NAME Koppers Industries, Inc.  
ADDRESS 7540 NW St. Helens Rd  
Portland, OR 97210

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)  
DISCHARGE MONITORING REPORT (DMR)  
(2-16) (17-19)  
101003 001  
PERMIT NUMBER DISCHARGE NUMBER

3077-J  
47430

Form Approved.  
OMB No. 2040-0004  
Approval expires 05-31-88

FACILITY NW Terminal  
LOCATION Multnomah Co.

MONITORING PERIOD  
FROM YEAR MO DAY TO YEAR MO DAY  
97 12 01 97 12 31  
(120-21) (122-23) (124-25) (126-27) (128-29) (130-31)

NOTE: Read instructions before completing this form.

PARAMETER (132-371)	X	(3 Card Only) (146-53) QUANTITY OR LOADING (154-61)			(4 Card Only) (138-45) QUANTITY OR CONCENTRATION (146-53) (154-61)				NO. EX (162-63)	FREQUENCY OF ANALYSIS (164-68)	SAMPLE TYPE (169-70)
		AVERAGE	MAXIMUM	UNITS	MINIMUM	AVERAGE	MAXIMUM	UNITS			
Flow	SAMPLE MEASUREMENT	28,387		GPD					0	N/A	Est.
	PERMIT REQUIREMENT										
Temp	SAMPLE MEASUREMENT				40	42	44	°F	0	1/7	Grab
	PERMIT REQUIREMENT				N/A	N/A	N/A				
pH	SAMPLE MEASUREMENT				6.8	6.9	7.0	SU	0	1/7	Grab
	PERMIT REQUIREMENT				6.0	—	9.0				
Oil & Grease	SAMPLE MEASUREMENT				nd	2.8	5.4	mg/L	0	1/7	Grab
	PERMIT REQUIREMENT				0	10	15				
Phenols	SAMPLE MEASUREMENT				.28	.28	.28	mg/L	0	1/30	Grab
	PERMIT REQUIREMENT				0	.5	.7				
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
NAME/TITLE PRINCIPAL EXECUTIVE OFFICER		I CERTIFY UNDER PENALTY OF LAW THAT I HAVE PERSONALLY EXAMINED AND AM FAMILIAR WITH THE INFORMATION SUBMITTED HEREIN; AND BASED ON MY INQUIRY OF THOSE INDIVIDUALS IMMEDIATELY RESPONSIBLE FOR OBTAINING THE INFORMATION, I BELIEVE THE SUBMITTED INFORMATION IS TRUE, ACCURATE AND COMPLETE. I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION, INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT. SEE 18 U.S.C. § 1001 AND 33 U.S.C. § 1318. (Penalties under these statutes may include fines up to \$10,000 and/or maximum imprisonment of between 6 months and 5 years.)									
R.D. Collins, VP											
TYPED OR PRINTED		Amos S. Kamerer, Plt. Mgr.				TELEPHONE		DATE			
		SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT				503 286-3681		98 01 05			
						AREA CODE NUMBER		YEAR MO DAY			

COMMENTS AND EXPLANATION OF ANY VIOLATIONS (Reference all attachments here)



NAME Koppers Industries, Inc.  
ADDRESS 7540 NW St. Helens Road  
Portland, OR

DISCHARGE MONITORING REPORT (DMR)  
(12-16) (17-19)  
101003  
PERMIT NUMBER  
001  
DISCHARGE NUMBER

3077-J  
47430

OMB No. 2040-0004  
Approval expires 05-31-98

P. FACILITY NW Terminal  
LOCATION Multnomah Co.

MONITORING PERIOD  
FROM YEAR MO DAY TO YEAR MO DAY  
97 11 01 97 11 30  
(120-211) (122-231) (124-251) (126-271) (128-291) (130-311)

NOTE: Read instructions before completing this form.

PARAMETER (132-371)		(3 Card Only) (146-531) QUANTITY OR LOADING (154-611)			(4 Card Only) (138-451) QUANTITY OR CONCENTRATION (146-531) (154-611)				NO. EX (162-691)	FREQUENCY OF ANALYSIS (164-681)	SAMPLE TYPE (169-701)
		AVERAGE	MAXIMUM	UNITS	MINIMUM	AVERAGE	MAXIMUM	UNITS			
FLOW	SAMPLE MEASUREMENT	22,000		GPD					0	N/A	EST.
	PERMIT REQUIREMENT										
TEMP	SAMPLE MEASUREMENT				46	48	50	° F	0	1/7	GRAB
	PERMIT REQUIREMENT				N/A	N/A	N/A				
PH	SAMPLE MEASUREMENT				6.8	6.8	6.9	SU	0	1/7	GRAB
	PERMIT REQUIREMENT				6.0		9.0				
Oil & Grease	SAMPLE MEASUREMENT				N.D.	1.6	2.7	MG/L	0	1/7	GRAB
	PERMIT REQUIREMENT				0	10	15				
PHENOLS	SAMPLE MEASUREMENT				.07	.085	.1	MG/L	0	1/30	GRAB
	PERMIT REQUIREMENT				0	.5	.7				
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER	I CERTIFY UNDER PENALTY OF LAW THAT I HAVE PERSONALLY EXAMINED AND AM FAMILIAR WITH THE INFORMATION SUBMITTED HEREIN; AND BASED ON MY INQUIRY OF THOSE INDIVIDUALS IMMEDIATELY RESPONSIBLE FOR OBTAINING THE INFORMATION, I BELIEVE THE SUBMITTED INFORMATION IS TRUE, ACCURATE AND COMPLETE. I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION, INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT. SEE 18 U.S.C. § 1001 AND 93 U.S.C. § 1318. (Penalties under these statutes may include fines up to \$10,000 and/or maximum imprisonment of between 6 months and 6 years.)	TELEPHONE	DATE			
R.D. Collins, VP TYPED OR PRINTED		503 286-3681	97 12 01			
SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT		AREA CODE	NUMBER	YEAR	MO	DAY

COMMENTS AND EXPLANATION OF ANY VIOLATIONS (Reference all attachments here)

Fourth quarter

EPA Form 3320-1 (08-95) Previous editions may be used.

(REPLACES EPA FORM T-40 WHICH MAY NOT BE USED.)

PAGE OF

cc: J. Holtrop-City of Portland

W.E. Swearingen-KK KII

1 1

DEC-2-97 TUE 9:36 AM KOPPERS IND FAX NO. 503 285 2831

Koppers001700

PERMITTEE NAME/ADDRESS (Include Facility Name/ Location, if Different)

NAME Koppers Industries, Inc.

ADDRESS 7540 NW St Helens Rd.

Portland, OR 97210

FACTORY NW Terminal

LOCATION Multhomah Co.

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)  
DISCHARGE MONITORING REPORT (DMR)

101003  
PERMIT NUMBER

001  
DISCHARGE NUMBER

3077-J

Form Approved

OMB No. 2040-0004

Approval expires 05-31-98

MONITORING PERIOD

FROM YEAR 97 MO 10 DAY 01 TO YEAR 97 MO 10 DAY 31  
(20-21) (22-23) (24-26) (26-27) (28-29) (30-31)

47430

NOTE: Read instructions before completing this form.

PARAMETER (32-37)	SAMPLE MEASUREMENT PERMIT REQUIREMENT	(3 Card Only) QUANTITY OR LOADING (48-53)			(4 Card Only) QUANTITY OR CONCENTRATION (38-45) (46-53) (54-61)				NO. EX. (62-63)	FREQUENCY OF ANALYSIS (64-68)	SAMPLE TYPE (69-70)
		AVERAGE	MAXIMUM	UNITS	MINIMUM	AVERAGE	MAXIMUM	UNITS			
FLOW	SAMPLE MEASUREMENT	17,742		GPD					0	N/A	EST.
	PERMIT REQUIREMENT			ERR							
TEMP.	SAMPLE MEASUREMENT				50	53	58		0	1/7	GRAB
	PERMIT REQUIREMENT				N/A	N/A	N/A				
PH	SAMPLE MEASUREMENT				6.8	6.9	7.0		0	1/7	GRAB
	PERMIT REQUIREMENT				6.0		9.0	SU			
OIL & GREASE	SAMPLE MEASUREMENT				2.0	5.7	12.0	MG/L	0	1/7	GRAB
	PERMIT REQUIREMENT				0	10	15				
PHENOLS	SAMPLE MEASUREMENT				.09	.09	.09	MG/L	0	1/30	GRAB
	PERMIT REQUIREMENT				0	.5	.7				
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER

R.D. Collins, VP

TYPED OR PRINTED

I CERTIFY UNDER PENALTY OF LAW THAT I HAVE PERSONALLY EXAMINED AND AM FAMILIAR WITH THE INFORMATION SUBMITTED HEREIN; AND BASED ON MY INQUIRY OF THOSE INDIVIDUALS IMMEDIATELY RESPONSIBLE FOR OBTAINING THE INFORMATION, I BELIEVE THE SUBMITTED INFORMATION IS TRUE, ACCURATE AND COMPLETE. I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION, INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT. SEE 19 U.S.C. § 1001 AND 33 U.S.C. § 1310. (Penalties under these statutes may include fines up to \$10,000 and/or maximum imprisonment of between 6 months and 6 years.)

Amos S. Kamerer, Plt. Mar.  
SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT

TELEPHONE

503 286-3681

DATE

97 11 04  
YEAR MO DAY

COMMENTS AND EXPLANATION OF ANY VIOLATIONS (Reference all attachments here)

Fourth quarter PAB analysis is attached.

EPA Form 3320-1 (08/95) Previous editions may be used.

(REPLACES EPA FORM T-40 WHICH MAY NOT BE USED.)

PAGE 1 OF 1

FAX NO. 503 285 2831

KOPPERS IND

NOV-5-97 WED 9:56 AM

P. 2

Koppers001701

# CERTIFICATE OF ANALYSIS

CLIENT: KOPPERS INDUSTRIES, INC.  
7540 NW ST. HELENS ROAD  
PORTLAND OR 97210-3663

PHONE: (503) 286-3681  
FAX: (503) 285-2831

DATE SUBMITTED: 09/23/97

PO#:

PROJECT NAME: WASTE WATER ANALYSIS

CI SAMPLE #	CLIENTS ID#	DATE	TIME	DESCRIPTION
971315-001-01		09/23/97	1300	TANKS 1,3,5 WASTE WATER SAMPLE

REPORT DATE: 10/02/97

REPORT NUMBER: 971315

PAGE: 1 OF 1

SAMPLE	TEST	PARAMETER	RESULT	UNIT	DETECTION LIMIT	ANALYST
971315-001-01	PNAH 2	ACENAPHTHENE	ND	PPM	0.0005	*
	EPA 625 (SIM)	ACENAPHTHYLENE	ND	PPM	0.0005	
		ANTHRACENE	ND	PPM	0.0004	
		BENZO(A)ANTHRACENE	0.0012	PPM	0.00001	
		BENZO(A)PYRENE	0.0025	PPM	0.00001	
		BENZO(B)FLUORANTHENE	0.0025	PPM	0.00004	
		BENZO(GHI)PERYLENE	0.0020	PPM	0.00002	
		BENZO(K)FLUORANTHENE	0.00087	PPM	0.00001	
		CHRYSENE	ND	PPM	0.0001	
		DIBENZO(AH)ANTHRACENE	0.00053	PPM	0.00002	
		FLUORANTHENE	0.0037	PPM	0.0002	
		FLUORENE	0.0012	PPM	0.0002	
		INDENO(1,2,3-CD)PYRENE	ND	PPM	0.00002	
		NAPHTHALENE	ND	PPM	0.001	
		PHENANTHRENE	ND	PPM	0.0002	
		PYRENE	ND	PPM	0.0001	

SURROGATE

Acceptable Recovery

17.6

REVIEWED BY:

Richard D. Reid - Laboratory Director

COPY



# CERTIFICATE OF ANALYSIS

CLIENT: KOPPERS INDUSTRIES, INC.  
7540 NW ST. HELENS ROAD  
PORTLAND OR 97210-3663

PHONE: (503) 286-3681  
FAX: (503) 285-2831

DATE SUBMITTED: 10/02/97

PO#:

PROJECT NAME: WASTE WATER ANALYSIS

CI SAMPLE #	CLIENTS ID#	DATE	TIME	DESCRIPTION
971364-001-01		10/01/97	1500	WASTE WATER SAMPLE FROM TANKS 2-4-6
971364-001-02		10/01/97	1500	WASTE WATER SAMPLE FROM TANKS 2-4-6

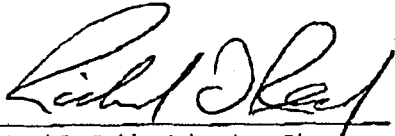
REPORT DATE: 10/03/97

REPORT NUMBER: 971364

PAGE: 1 OF 1

SAMPLE	TEST	PARAMETER	RESULT	UNIT	DETECTION LIMIT	ANALYST
971364-001-01	O&G, TOTAL, GRAV EPA 413.1/9070	TOTAL OIL & GREASE	2.0	PPM	2	Dick R.
971364-001-02	PHENOLS, TOTAL EPA 420.1	TOTAL RECOVERABLE PHENOLICS	0.09	PPM	0.05	Dick R.

REVIEWED BY:

  
Richard D. Reid - Laboratory Director



# CERTIFICATE OF ANALYSIS

CLIENT: KOPPERS INDUSTRIES, INC.  
7540 NW ST. HELENS ROAD  
PORTLAND OR 97210-3663

PHONE: (503) 286-3681  
FAX: (503) 285-2831

DATE SUBMITTED: 10/17/97

PROJECT NAME: WASTE WATER ANALYSIS

CI SAMPLE #	CLIENTS ID#	DATE	TIME	DESCRIPTION
971440-001-01		10/16/97	1600	WASTE WATER TANKS 2-4-6 GRAB SAMPLE

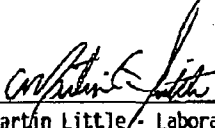
REPORT DATE: 10/21/97

REPORT NUMBER: 971440

PAGE: 1 OF 1

SAMPLE	TEST	PARAMETER	RESULT	UNIT	DETECTION LIMIT	ANALYST
WASTE WATER TANKS 2-4-6 GRAB SAMPLE						
	O&G, TOTAL, GRAV EPA 413.1/9070	TOTAL OIL & GREASE	12	PPM	2	Dick R.

REVIEWED BY:

  
Martin Little - Laboratory Manager

COPIES

# CERTIFICATE OF ANALYSIS

CLIENT: KOPPERS INDUSTRIES, INC.  
7540 NW ST. HELENS ROAD  
PORTLAND OR 97210-3663

PHONE: (503) 286-3681  
FAX: (503) 285-2831

DATE SUBMITTED: 10/29/97

PROJECT NAME: WASTE WATER ANALYSIS

CI SAMPLE #	CLIENTS ID#	DATE	TIME	DESCRIPTION
971496-001-01		10/29/97	1400	WASTE WATER GRAB SAMPLE FROM TANKS 1-3-5

REPORT DATE: 11/03/97

REPORT NUMBER: 971496

PAGE: 1 OF 1

SAMPLE	TEST	PARAMETER	RESULT	UNIT	DETECTION LIMIT	ANALYST
WASTE WATER GRAB SAMPLE FROM TANKS 1-3-5						
	O&G, TOTAL, GRAV EPA 413.1/9070	TOTAL OIL & GREASE	3.2	PPM	2	Gordon I.

REVIEWED BY:

*Martin Little*  
Martin Little - Laboratory Manager

PERMITTEE NAME/ADDRESS (Include Facility Name/Location if Different)  
NAME Koppers Industries, Inc.  
ADDRESS 7540 NW ST Helens Road  
Portland, OR 97210

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)  
DISCHARGE MONITORING REPORT (DMR)  
(12-16) (17-19)  
101003 001  
PERMIT NUMBER DISCHARGE NUMBER

Form Approved.  
OMB No. 2040-0004  
Approval expires 05-31-98

FACILITY NW Terminal  
LOCATION Multnomah Co.

MONITORING PERIOD  
FROM YEAR MO DAY TO YEAR MO DAY  
97 09 01 97 09 30  
(20-21) (22-23) (24-25) (26-27) (28-29) (30-31)

3077-J

47430

NOTE: Read instructions before completing this form.

PARAMETER (132-37)	SAMPLE MEASUREMENT PERMIT REQUIREMENT	QUANTITY OR LOADING (146-53) (154-61)			QUANTITY OR CONCENTRATION (138-45) (146-53) (154-61)				NO. EX (152-63)	FREQUENCY OF ANALYSIS (164-68)	SAMPLE TYPE (169-70)
		AVERAGE	MAXIMUM	UNITS	MINIMUM	AVERAGE	MAXIMUM	UNITS			
FLOW	SAMPLE MEASUREMENT	3667		CPD					0	N/A	EST
	PERMIT REQUIREMENT										
TEMP.	SAMPLE MEASUREMENT				58	58	58	F	0	1/30	grab
	PERMIT REQUIREMENT				N/A	N/A	N/A				
PH	SAMPLE MEASUREMENT				7.0	7.0	7.0	SU	0	1/30	grab
	PERMIT REQUIREMENT				6.0	-	9.0				
OIL & GREASE	SAMPLE MEASUREMENT				3.7	3.7	3.7	MG/L	0	1/30	grab
	PERMIT REQUIREMENT				N/A	10	15				
PHENOLS	SAMPLE MEASUREMENT				.10	.10	.10	MG/L	0	1/30	grab
	PERMIT REQUIREMENT				N/A	.5	.7				

Post-it\* Fax Note 7671 Date 10-10-97 # of pages 2

To W.E. Swearingin	From Amos
Co./Dept.	Co. KTI Portland
Phone #	Phone #
Fax #	Fax #

NAME/TITLE PRINCIPAL E

R.D. Collins, VP

TYPED OR PRINTED

MY INQUIRY OF THOSE INDIVIDUALS IMMEDIATELY RESPONSIBLE FOR OBTAINING THE INFORMATION, I BELIEVE THE SUBMITTED INFORMATION IS TRUE, ACCURATE AND COMPLETE. I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION, INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT. SEE 18 U.S.C. § 1001 AND 33 U.S.C. § 1319. (Penalties under these statutes may include fines up to \$10,000 and/or maximum imprisonment of between 6 months and 5 years.)

SIGNED AND  
BASED ON

Amos B. Kamerer, Plt. Mgr

SIGNATURE OF PRINCIPAL EXECUTIVE  
OFFICER OR AUTHORIZED AGENT

TELEPHONE

DATE

503, 286-3681

97 10 10

AREA  
CODE

NUMBER

YEAR

MO

DAY

COMMENTS AND EXPLANATION OF ANY VIOLATIONS (Reference all attachments here)

No PAH third quarter analysis, see the attached note.

EPA Form 3320-1 (08-95) Previous editions may be used.

(REPLACES EPA FORM T-40 WHICH MAY NOT BE USED.)

PAGE OF

W.E. Swearingin-KII

1 1

OCT-10-97 FRI 9:58 AM KOPPERS IND FAX NO. 503 295 2831

Koppers001706

# **KOPPERS INDUSTRIES**

Koppers Industries, Inc.  
7540 N.W. St. Helens Road  
Portland, OR 97210-3663

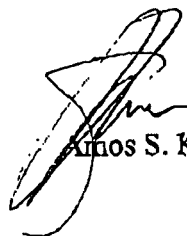
**Amos S. Kameron**  
Plant Manager

Telephone: 503-286-3681  
Fax: 503-285-2831

10/10/97

**Note to File:**

Confirming my telephone conversation with Elliot Zais on 10/01/97. Due to a laboratory equipment failure, the PAH analysis was not completed until 10/02/97, on a sample taken on 09/25/97. Consequently, the material represented by this sample was not discharged during September as planned, thus no PAH analysis is being reported for the 3rd quarter. The material sampled on 09/25/97 was discharged starting 10/06/97, thus PAH analysis will be reported as the 4th quarter results.

  
Amos S. Kameron



PERMITTEE NAME/ADDRESS (Include Facility Name/Location if Different)  
NAME ME

ADDRESS Koppers Industries, Inc.  
7540 NW St. Helens Rd.  
Portland, OR 97210

FACILITY NW Terminal  
LOCATION Multnomah Co.

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)  
DISCHARGE MONITORING REPORT (DMR)  
(2-16) (17-19)

101003  
PERMIT NUMBER

001  
DISCHARGE NUMBER

3077-J

Form Approved.  
OMB No. 2040-0004  
Approval expires 05-31-98

MONITORING PERIOD  
FROM YEAR MO DAY TO YEAR MO DAY  
97 08 01 97 08 31  
(20-21) (22-23) (24-26) (26-27) (28-29) (30-31)

47430

NOTE: Read instructions before completing this form.

PARAMETER (32-37)		(3 Card Only) QUANTITY OR LOADING (46-53)			(4 Card Only) QUANTITY OR CONCENTRATION (54-61)			NO. EX. (62-63)	FREQUENCY OF ANALYSIS (64-68)	SAMPLE TYPE (69-70)
		AVERAGE	MAXIMUM	UNITS	MINIMUM	AVERAGE	MAXIMUM			
FLOW	SAMPLE MEASUREMENT	3226		GDP				0	N/A	ES
	PERMIT REQUIREMENT									
TEMP.	SAMPLE MEASUREMENT				60	60	60	0	1/30	GRAB
	PERMIT REQUIREMENT				N/A	N/A	N/A			
PH	SAMPLE MEASUREMENT				7.2	7.2	7.2	0	1/30	GRAB
	PERMIT REQUIREMENT				6.0	-	9.0			
OIL & GREASE	SAMPLE MEASUREMENT				7.7	7.7	7.7	0	1/30	GRAB
	PERMIT REQUIREMENT				N/A	10	15			
PHENOLS	SAMPLE MEASUREMENT				N.D.	N.D.	N.D.	0	1/30	GRAB
	PERMIT REQUIREMENT				N/A	.5	.7			
	SAMPLE MEASUREMENT									
	PERMIT REQUIREMENT									
	SAMPLE MEASUREMENT									
	PERMIT REQUIREMENT									

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER  
R.D. Collins, VP  
TYPED OR PRINTED

I CERTIFY UNDER PENALTY OF LAW THAT I HAVE PERSONALLY EXAMINED AND AM FAMILIAR WITH THE INFORMATION SUBMITTED HEREIN; AND BASED ON MY INQUIRY OF THOSE INDIVIDUALS IMMEDIATELY RESPONSIBLE FOR OBTAINING THE INFORMATION, I BELIEVE THE SUBMITTED INFORMATION IS TRUE, ACCURATE AND COMPLETE. I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION, INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT. SEE 18 U.S.C. § 1001 AND 33 U.S.C. § 1315. (Penalties under these statutes may include fines up to \$10,000 and/or maximum imprisonment of between 6 months and 5 years.)

Amos Kramerer, Plt. Mgr.  
SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT

TELEPHONE DATE  
503 286-3681 97 09 03  
AREA CODE NUMBER YEAR MO DAY

COMMENTS AND EXPLANATION OF ANY VIOLATIONS (Reference all attachments here)

PERMITTEE NAME/ADDRESS (Include Facility Name, Location (if Different))

NAME KOPPERS INDUSTRIES, INC.

ADDRESS 7540 NW ST. HELENS RD.  
PORTLAND, OR 97210

FACILITY NW TERMINAL  
LOCATION MULTNOMAH CO.

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)  
DISCHARGE MONITORING REPORT (DMR)

101003  
PERMIT NUMBER

001  
DISCHARGE NUMBER

3077-J

Form Approved,  
OMB No. 2040-0004  
Approval expires 05-31-98

MONITORING PERIOD							
YEAR			MO			DAY	
FROM	97	07	01	TO	97	07	31
(20-21)			(22-23)			(24-26)	

47430

NOTE: Read instructions before completing this form.

PARAMETER (32-37)		(3 Card Only) QUANTITY OR LOADING (46-53)			(4 Card Only) QUANTITY OR CONCENTRATION (54-61)				NO. EX (62-63)	FREQUENCY OF ANALYSIS (64-68)	SAMPLE TYPE (69-70)
		AVERAGE	MAXIMUM	UNITS	MINIMUM	AVERAGE	MAXIMUM	UNITS			
FLOW	SAMPLE MEASUREMENT	7097		GPD					0	N/A	EST.
	PERMIT REQUIREMENT										
TEMP.	SAMPLE MEASUREMENT				56	57	58	°F	0	2/30	GRAB.
	PERMIT REQUIREMENT				N/A	N/A	N/A				
PH	SAMPLE MEASUREMENT				6.9	6.95	7.0	SU	0	2/30	GRAB.
	PERMIT REQUIREMENT				6.0	- - -	9.0				
OIL & GREASE	SAMPLE MEASUREMENT				2.0	2.0	2.0	MG/L	0	2/30	GRAB.
	PERMIT REQUIREMENT				N/A	10	15				
PHENOLS	SAMPLE MEASUREMENT				.07	.085	.10	MG/L	0	2/30	GRAB.
	PERMIT REQUIREMENT				N/A	.5	.7				
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER

R. D. COLLINS, VP

TYPED OR PRINTED

I CERTIFY UNDER PENALTY OF LAW THAT I HAVE PERSONALLY EXAMINED AND AM FAMILIAR WITH THE INFORMATION SUBMITTED HEREIN, AND BASED ON MY INQUIRY OF THOSE INDIVIDUALS IMMEDIATELY RESPONSIBLE FOR OBTAINING THE INFORMATION, I BELIEVE THE SUBMITTED INFORMATION IS TRUE, ACCURATE AND COMPLETE. I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION, INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT. SEE 18 U.S.C. § 1001 AND 33 U.S.C. § 1319. Penalties under these statutes may include fines up to \$10,000 and/or maximum imprisonment of between 6 months and 5 years.

Amos S. Kamerer, Plt. Mgr.

SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT

TELEPHONE

DATE

503 286-3681 97 08 08  
AREA CODE NUMBER YEAR MO DAY

COMMENTS AND EXPLANATION OF ANY VIOLATIONS (Reference all attachments here)

P. 2

FAX NO. 503 285 2831

JUL-8-97 TUE 9:46 AM KOPPERS IND

Koppers001710

PERMITTEE NAME/ADDRESS (Include Facility Name/Location if Different)

NAME KOPPERS INDUSTRIES, INC.

ADDRESS 7540 NW ST. HELENS RD.  
PORTLAND, OR 97210

FACILITY NW TERMINAL

LOCATION MULTNOMAH CO.

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)  
DISCHARGE MONITORING REPORT (DMR)  
(2-16) (17-19)101003  
PERMIT NUMBER001  
DISCHARGE NUMBER

3077-J

47430

Form Approved.  
OMB No. 2040-0004  
Approval expires 05-31-98

MONITORING PERIOD								
YEAR			MO			DAY		
FROM	97	06	01	TO	97	06	30	
(20-21)			(22-23)			(24-25)		
						(26-27) (28-29) (30-31)		

NOTE: Read instructions before completing this form.

PARAMETER (32-37)		(3 Card Only) QUANTITY OR LOADING (46-53)			(4 Card Only) QUANTITY OR CONCENTRATION (46-53)				NO. EX (62-63)	FREQUENCY OF ANALYSIS (64-68)	SAMPLE TYPE (69-70)	
		AVERAGE	MAXIMUM	UNITS	MINIMUM	AVERAGE	MAXIMUM	UNITS				
FLOW	SAMPLE MEASUREMENT	3667		GPD					N/A	1/30	EST.	
	PERMIT REQUIREMENT											
TEMP.	SAMPLE MEASUREMENT				64	64	64	°F	0	1/30	GRAB	
	PERMIT REQUIREMENT				N/A	N/A	N/A					
PH	SAMPLE MEASUREMENT				7.1	7.1	7.1	SU	0	1/30	GRAB	
	PERMIT REQUIREMENT				6.0	N/A	9.0					
OIL & GREASE	SAMPLE MEASUREMENT				8.5	8.5	8.5	MG/L	0	1/30	GRAB	
	PERMIT REQUIREMENT				N/A	10	15					
PHENOLS	SAMPLE MEASUREMENT				.24	.24	.24	MG/L	0	1/30	GRAB	
	PERMIT REQUIREMENT				N/A	.5	.7					
	SAMPLE MEASUREMENT											
	PERMIT REQUIREMENT											
	SAMPLE MEASUREMENT											
	PERMIT REQUIREMENT											
NAME/TITLE PRINCIPAL EXECUTIVE OFFICER		I CERTIFY UNDER PENALTY OF LAW THAT I HAVE PERSONALLY EXAMINED AND AM FAMILIAR WITH THE INFORMATION SUBMITTED HEREIN; AND BASED ON MY INQUIRY OF THOSE INDIVIDUALS IMMEDIATELY RESPONSIBLE FOR OBTAINING THE INFORMATION, I BELIEVE THE SUBMITTED INFORMATION IS TRUE, ACCURATE AND COMPLETE. I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION, INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT. SEE 18 U.S.C. § 1001 AND 33 U.S.C. § 1918. Penalties under these statutes may include fines up to \$10,000 and/or maximum imprisonment of between 6 months and 5 years.						TELEPHONE		DATE		
R.D. COLLINS, VP												
TYPED OR PRINTED		SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT						503	286-3681	97	07	07
								AREA CODE	NUMBER	YEAR	MO	DAY

COMMENTS AND EXPLANATION OF ANY VIOLATIONS (Reference all attachments here)



# CERTIFICATE OF ANALYSIS

CLIENT: KOPPERS INDUSTRIES, INC.  
7540 NW ST. HELENS ROAD  
PORTLAND OR 97210-3663

PHONE: (503) 286-3681  
FAX: (503) 285-2831

DATE SUBMITTED: 06/03/97

PO#:

PROJECT NAME: WASTE WATER ANALYSIS

CI SAMPLE #	CLIENTS ID#	DATE	TIME	DESCRIPTION
970774-001-01		06/03/97	1500	WASTE WATER FROM TANKS 1, 3 & 5
970774-001-02		06/03/97	1500	WASTE WATER FROM TANKS 1, 3 & 5

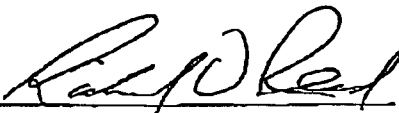
REPORT DATE: 06/05/97

REPORT NUMBER: 970774

PAGE: 1 OF 1

SAMPLE	TEST	PARAMETER	RESULT	UNIT	DETECTION LIMIT	ANALYST
WASTEWATER FROM TANKS 1,3,5						
970774-001-01	O&G, TOTAL, GRAV EPA 413.1/9070	TOTAL OIL & GREASE	8.5	PPM	2	Gordon L.
970774-001-02	PHENOLS, TOTAL EPA 420.1	TOTAL RECOVERABLE PHENOLICS	0.24	PPM	0.05	Dick R.

REVIEWED BY:

  
Richard D. Reid - Laboratory Director

COPY

Columbia Inspection, Inc. 7133 N Lombard St. - Portland, OR 97203 (503) 286-9464 Fax (503) 286-5355

## PERMITTEE NAME/ADDRESS (Include

Facility Name/Location if different)

NAME KOPPERS INDUSTRIES, INC.

ADDRESS 7540 NW ST. HELENS RD

PORTLAND, OR 97210

FACILITY NW TERMINAL

LOCATION MULTNOMAH CO.

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)  
DISCHARGE MONITORING REPORT (DMR)

(2-16)

(17-19)

101003

001

PERMIT NUMBER

DISCHARGE NUMBER

3077-J

47430

Form Approved.

OMB No. 2040-0004

Approval expires 10-31-94

## MONITORING PERIOD

FROM			TO		
YEAR	MO	DAY	YEAR	MO	DAY
97	05	01	97	05	31
(20-21)	(22-23)	(24-25)	(26-27)	(28-29)	(30-31)

NOTE: Read instructions before completing this form.

PARAMETER (32-37)	X	(3 Card Only) QUANTITY OR LOADING (46-53)			(4 Card Only) QUALITY OR CONCENTRATION (38-45) (46-53) (54-61)				NO. EX (62-63)	FREQUENCY OF ANALYSIS (64-68)	SAMPLE TYPE (69-70)	
		AVERAGE	MAXIMUM	UNITS	MINIMUM	AVERAGE	MAXIMUM	UNITS				
FLOW	SAMPLE MEASUREMENT	10645		GPD						N/A	9/31	EST.
	PERMIT REQUIREMENT											
TEMP.	SAMPLE MEASUREMENT				61	62	62	OF	0	9/31	GRAB	
	PERMIT REQUIREMENT				N/A	N/A	N/A					
PH	SAMPLE MEASUREMENT				6.8	6.8	6.9	SU	0	9/31	GRAB	
	PERMIT REQUIREMENT				6.0	N/A	9.0					
OIL & GREASE	SAMPLE MEASUREMENT				N.D.	4.0	9.8	MG/L	0	9/31	GRAB	
	PERMIT REQUIREMENT				N/A	10	15					
PHENOLS	SAMPLE MEASUREMENT				N.D.	.05	.08	MG/L	0	9/31	GRAB	
	PERMIT REQUIREMENT				N/A							
	SAMPLE MEASUREMENT											
	PERMIT REQUIREMENT											
	SAMPLE MEASUREMENT											
	PERMIT REQUIREMENT											
NAME/TITLE PRINCIPAL EXECUTIVE OFFICER		I CERTIFY UNDER PENALTY OF LAW THAT I HAVE PERSONALLY EXAMINED AND AM FAMILIAR WITH THE INFORMATION SUBMITTED HEREIN AND BASED ON MY INQUIRY OF THOSE INDIVIDUALS IMMEDIATELY RESPONSIBLE FOR OBTAINING THE INFORMATION I BELIEVE THE SUBMITTED INFORMATION IS TRUE, ACCURATE AND COMPLETE. I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION, INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT. SEE 18 U.S.C. § 1001 AND 39 U.S.C. § 1310. (Penalties under these statutes may include fines up to \$10,000 and or maximum imprisonment of between 6 months and 5 years.)										
R.D. COLLINS, VP		Signature of Principal Executive Officer or Authorized Agent										
TYPED OR PRINTED		TELEPHONE DATE										
		503 286 3681 97 06 09										
		AREA CODE NUMBER YEAR MO DAY										

COMMENT AND EXPLANATION OF ANY VIOLATIONS (Reference all attachments here)

A "Round Robin" PAH analysis was run between 2 laboratories -- results are attached

P. 7

FAX NO. 503 285 2831

JUL-30-97 WED 9:30 AM KOPPERS IND

Koppers001713

PERMITTEE NAME/ADDRESS (Include  
Facility Name/Location if different)NAME KOPPERS INDUSTRIES, INC.ADDRESS 7540 NW ST. HELENS RD  
PORTLAND, OR 97210FACILITY NORTHWEST TERMINALLOCATION MULTNOMAH CO.NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)  
DISCHARGE MONITORING REPORT (DMR)

(2-16)

(17-19)

101003

PERMIT NUMBER

001

DISCHARGE NUMBER

3077-J  
47430

Form Approved.

OMB No. 2040-0004

Approval expires 10-31-94

MONITORING PERIOD									
FROM			TO						
YEAR	MO	DAY	YEAR	MO	DAY				
97	04	01	97	04	30				
(20-21) (22-23) (24-25)			(26-27) (28-29) (30-31)						

NOTE: Read instructions before completing this form.

PARAMETER (32-37)		(3 Card Only) QUANTITY OR LOADING (46-53)			(4 Card Only) QUALITY OR CONCENTRATION (46-53)			NO. EX (62-63)	FREQUENCY OF ANALYSIS (64-68)	SAMPLE TYPE (69-70)		
		AVERAGE	MAXIMUM	UNITS	MINIMUM	AVERAGE	MAXIMUM					
FLOW	SAMPLE MEASUREMENT	14,667		GPD					N/A	12/30	EST.	
	PERMIT REQUIREMENT											
TEMP	SAMPLE MEASUREMENT				54	57	59	F°	0	12/30	GRAB	
	PERMIT REQUIREMENT				N/A	N/A	N/A					
pH	SAMPLE MEASUREMENT				6.9	7.0	7.1	SU	0	12/30	GRAB	
	PERMIT REQUIREMENT				6.0	N/A	9.0					
OIL & GREASE	SAMPLE MEASUREMENT				N.D.	1.6	3.8	mg/L	0	12/30	GRAB	
	PERMIT REQUIREMENT				N/A	0	15					
PHENOLS	SAMPLE MEASUREMENT				N.D.	.08	.17	mg/L	0	12/30	GRAB	
	PERMIT REQUIREMENT				N/A	0	20					
	SAMPLE MEASUREMENT											
	PERMIT REQUIREMENT											
	SAMPLE MEASUREMENT											
	PERMIT REQUIREMENT											
NAME/TITLE PRINCIPAL EXECUTIVE OFFICER		I CERTIFY UNDER PENALTY OF LAW THAT I HAVE PERSONALLY EXAMINED AND AM FAMILIAR WITH THE INFORMATION SUBMITTED HEREIN AND BASED ON MY INQUIRY OF THOSE INDIVIDUALS IMMEDIATELY RESPONSIBLE FOR OBTAINING THE INFORMATION I BELIEVE THE SUBMITTED INFORMATION IS TRUE, ACCURATE AND COMPLETE. I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION, INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT. SEE 18 U.S.C. § 1001 AND 33 U.S.C. § 1319. (Penalties under these statutes may include fines up to \$10,000 and/or maximum imprisonment of between 6 months and 5 years.)						TELEPHONE		DATE		
R.D. COLLINS, V.P.										97	05	05
TYPED OR PRINTED		SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT						AREA CODE	NUMBER	YEAR	MO	DAY

COMMENT AND EXPLANATION OF ANY VIOLATIONS (Reference all attachments here)

SECOND QUARTER PAH RESULTS ARE ATTACHED

PERMITTEE NAME/ADDRESS (Include Facility Name/Location if different)

NAME KOPPERS IND. INC.

ADDRESS 7540 NW ST HELENS RD  
PORTLAND, OR 97210

FACILITY NORTHWEST TERMINAL

LOCATION MULTNOMAH CO.

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)

DISCHARGE MONITORING REPORT (DMR)

(2-16)

(17-19)

101003

PERMIT NUMBER

001

DISCHARGE NUMBER

3077-J

47430

Form Approved.

OMB No. 2040-0004

Approval expires 10-31-94

MONITORING PERIOD						
FROM			TO			
YEAR	MO	DAY	YEAR	MO	DAY	
97	03	01	97	03	31	
(20-21)	(22-23)	(24-25)	(26-27)	(28-29)	(30-31)	

NOTE: Read instructions before completing this form.

PARAMETER (32-37)	<div></div>	(3 Card Only) QUANTITY OR LOADING (46-53)			(4 Card Only) QUALITY OR CONCENTRATION (46-53)				NO. EX (62-63)	FREQUENCY OF ANALYSIS (64-68)	SAMPLE TYPE (69-70)
		(20-21) (22-23) (24-25)			(26-27) (28-29) (30-31)						
		AVERAGE (54-53)	MAXIMUM (54-61)	UNITS	MINIMUM (38-45)	AVERAGE (46-53)	MAXIMUM (54-61)	UNITS			
FLOW	SAMPLE MEASUREMENT	17,742		GPD					N/A	15/31	EST.
	PERMIT REQUIREMENT										
TEMP	SAMPLE MEASUREMENT				48	50	53	°F	0	15/31	GRAB
	PERMIT REQUIREMENT				N/A	N/A	N/A				
pH	SAMPLE MEASUREMENT				6.9	7.1	7.3	SU	0	15/31	GRAB
	PERMIT REQUIREMENT				6.0	—	9.0				
OIL & GREASE	SAMPLE MEASUREMENT				N.D.	3.2	6.8	mg/L	0	15/31	GRAB
	PERMIT REQUIREMENT				0	10	15				
PHENOLS	SAMPLE MEASUREMENT				.05	.17	.5	mg/L	0	15/31	GRAB
	PERMIT REQUIREMENT				0	.5	.7				
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER

R. D. COLLINS, V.P.

TYPED OR PRINTED

I CERTIFY UNDER PENALTY OF LAW THAT I HAVE PERSONALLY EXAMINED AND AM FAMILIAR WITH THE INFORMATION SUBMITTED HEREIN, AND BASED ON MY INQUIRY OF THOSE INDIVIDUALS IMMEDIATELY RESPONSIBLE FOR OBTAINING THE INFORMATION, I BELIEVE THE SUBMITTED INFORMATION IS TRUE, ACCURATE AND COMPLETE. I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION, INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT. SEE 18 USC, § 1001 AND 33 USC, § 1319. (Penalties under these statutes may include fines up to \$10,000 and/or maximum imprisonment of between 6 months and 5 years.)

Amos Kannerer, Plt. Mgr.

SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT

TELEPHONE

503-286-3681

AREA CODE

NUMBER

DATE

97 04 17

YEAR MO DAY

COMMENT AND EXPLANATION OF ANY VIOLATIONS (Reference all attachments here)

first quarter PAH test results are attached, SEE LETTER ATTACHED



# CERTIFICATE OF ANALYSIS

CLIENT: KOPPERS INDUSTRIES, INC.  
7540 NW ST. HELENS ROAD  
PORTLAND OR 97210-3663

PHONE: (503) 286-3681  
FAX: (503) 285-2831

DATE SUBMITTED: 03/06/97

PO#:

PROJECT NAME: WASTE WATER TANKS 1-3-5

CI SAMPLE #	CLIENTS ID#	DATE	TIME	DESCRIPTION
970317-001-01		03/06/97	0800	WASTE WATER GRAB SAMPLE
970317-001-02		03/06/97	0800	WASTE WATER GRAB SAMPLE
970317-001-03		03/06/97	0800	WASTE WATER GRAB SAMPLE

REPORT DATE: 03/13/97

REPORT NUMBER: 970317

PAGE: 1 OF 2

SAMPLE	TEST	PARAMETER	RESULT	UNIT	DETECTION LIMIT	ANALYST
970317-001-01	O&G. TOTAL, GRAV EPA 413.1/9070	TOTAL OIL & GREASE	5.1	PPM	2	Dick R.
970317-001-02	PHENOLS. TOTAL EPA 420.1	TOTAL RECOVERABLE PHENOLICS	.051	PPM	0.05	Dick R.
970317-001-03	PNAH 1 EPA 8270M (SIM)	ACENAPHTHENE	0.0091	PPM	0.00005	Jacob F.
		ACENAPHTHYLENE	0.0010	PPM	0.00005	
		ANTHRACENE	0.013	PPM	0.00005	
		BENZO(A)ANTHRACENE	0.45	PPM	0.00005	
		BENZO(A)PYRENE	0.25	PPM	0.0005	
		BENZO(B)FLUORANTHENE	0.024	PPM	0.0005	
		BENZO(GH)PERYLENE	0.23	PPM	0.0005	

REVIEWED BY:

Richard D. Reid - Laboratory Director

COPY



---

**CERTIFICATE OF ANALYSIS**

---

REPORT DATE: 03/13/97

REPORT NUMBER: 970317

PAGE: 2 OF 2

SAMPLE	TEST	PARAMETER	RESULT	UNIT	DETECTION LIMIT	ANALYST
970317-001-03	PW4H 1	BENZO(K)FLUORANTHENE	0.20	PPM	0.0005	Jacob F.
	EPA 8270M (SIM)	CHRYSENE	0.055	PPM	0.00005	
		DIBENZO(AH)ANTHRACENE	0.057	PPM	0.0005	
		FLUORANTHENE	0.13	PPM	0.00005	
		FLUORENE	0.0085	PPM	0.00005	
		INDENO(1,2,3-CD)PYRENE	0.057	PPM	0.0005	
		NAPHTHALENE	0.00096	PPM	0.00005	
		PHENANTHRENE	0.058	PPM	0.00005	
		PYRENE	0.11	PPM	0.00005	
		SURROGATE	94%	RECOVERY	50%-150%	

1.65356**COPY**



# CERTIFICATE OF ANALYSIS

CLIENT: KOPPERS INDUSTRIES, INC.  
7540 NW ST. HELENS ROAD  
PORTLAND OR 97210-3663

PHONE: (503) 286-3681  
FAX: (503) 285-2831

DATE SUBMITTED: 04/16/97

PO#:

PROJECT NAME: WW Tanks 1-3-5

CI SAMPLE #	CLIENTS ID#	DATE	TIME	DESCRIPTION
970550-001-01		04/14/97		Wastewater Grab from Tanks 1-3-5

REPORT DATE: 04/16/97

REPORT NUMBER: 970550

PAGE: 1 OF 1

SAMPLE	TEST	PARAMETER	RESULT	UNIT	DETECTION LIMIT	ANALYST
970550-001-01	PNM 2	ACENAPHTHENE	0.009	PPM	0.007	*
	EPA 825 (SIM)	ACENAPHTHYLENE	0.020	PPM	0.010	
		ANTHRACENE	ND	PPM	0.001	
		BENZO(A)ANTHRACENE	ND	PPM	0.005	
		BENZO(A)PYRENE	ND	PPM	0.01	
		BENZO(B)FLUORANTHENE	ND	PPM	0.0001	
		BENZO(GHI)PERYLENE	ND	PPM	0.0004	
		BENZO(K)FLUORANTHENE	ND	PPM	0.0003	
		CHRYSENE	ND	PPM	0.001	
		DIBENZO(AH)ANTHRACENE	ND	PPM	0.0004	
		FLUORANTHENE	0.022	PPM	0.001	
		FLUORENE	0.004	PPM	0.001	
		INDENO(1,2,3-CD)PYRENE	ND	PPM	0.001	
		NAPHTHALENE	ND	PPM	0.006	
		PHENANTHRENE	0.008	PPM	0.001	
		PYRENE	ND	PPM	0.001	

SURROGATE

ACCEPTABLE % RECOVERY

63

REVIEWED BY:

Richard D. Reid - Laboratory Director



## Analytical Data

Koppers Industry

Job Number: 970509Y

Page Number: 2 of 2

Lab Sample ID: 970509Y-1

Field ID: WWTKS 1,3,5

Date/Time: 05/05/97 0900

Matrix: Waste Water

RECEIVED

MAY 22 1997

KOPPERS INDS., INC.  
PORTLAND, OR

EPA Category: Extractable Organics

Analysis Performed: EPA 8310; Polynuclear Aromatic Hydrocarbons by HPLC.

Analysis Date: 05/12/97

Analyst: VB

Parameter	Detection Limit	Laboratory Blank	Analytical Result
Acenaphthene	50.	ND	ND
Acenaphthylene	50.	ND	ND
Anthracene	5.	ND	ND
Benzo(a)anthracene	0.5	ND	3.4
Benzo(a)pyrene	2.	ND	5.
Benzo(b)fluoranthene	0.5	ND	7.6
Benzo(g,h,i)perylene	2.	ND	8.
Benzo(k)fluoranthene	0.5	ND	2.5
Chrysene	5.	ND	ND
Dibenzo(a,h)anthracene	2.	ND	ND
Fluoranthene	5.	ND	10
Fluorene	25.	ND	ND
Indeno(1,2,3-cd)pyrene	2.5	ND	ND
Naphthalene	25.	ND	ND
Phenanthrene	25.	ND	ND
Pyrene	5.	ND	9.

Results expressed as  $\mu\text{g/l}$  unless otherwise noted.

ND means none detected at or above the detection limit listed.

45.5  $\mu\text{g/L}$ 

Coffey Laboratories, Inc.

12423 N.E. Whitaker Way • Portland, OR • 97230 • (503) 254-1794 • FAX (503) 254-1452

Koppers001718



## CERTIFICATE OF ANALYSIS

CLIENT: KOPPERS INDUSTRIES, INC.  
7540 NW ST. HELENS ROAD  
PORTLAND OR 97210-3663

PHONE: (503) 286-3681  
FAX: (503) 285-2831

DATE SUBMITTED: 05/08/97

PO#:

PROJECT NAME: QUARTERLY PAH ANALYSIS

CI SAMPLE #	CLIENTS ID#	DATE	TIME	DESCRIPTION
970654-001-01		05/05/97	0930	WASTE WATER GRAB SAMPLE FROM WTKS 1,3,8 & 5

REPORT DATE: 05/12/97

REPORT NUMBER: 970654

PAGE: 1 OF 1

SAMPLE	TEST	PARAMETER	RESULT	UNIT	DETECTION LIMIT	ANALYST
WASTE WATER GRAB SAMPLE FROM WTKS 1,3,8 & 5						
PNAH 1		ACENAPHTHENE	0.0084	PPM	0.00005	Jacob F.
EPA 8270M (SIM)		ACENAPHTHYLENE	0.00026	PPM	0.00005	
		ANTHRACENE	0.0019	PPM	0.00005	
		BENZO(A)ANTHRACENE	0.0076	PPM	0.00005	
		BENZO(A)PYRENE	0.0031	PPM	0.0005	
		BENZO(B)FLUORANTHENE	0.0077	PPM	0.0005	
		BENZO(GHI)PERYLENE	0.0042	PPM	0.0005	
		BENZO(K)FLUORANTHENE	0.0077	PPM	0.0005	
		CHRYSENE	0.0076	PPM	0.00005	
		DIBENZO(AH)ANTHRACENE	<0.0005	PPM	0.0005	
		FLUORANTHENE	0.012	PPM	0.00005	
		FLUORENE	0.0058	PPM	0.00005	
		INDENO(1,2,3-CD)PYRENE	0.0025	PPM	0.0005	
		NAPHTHALENE	0.00035	PPM	0.00005	
		PHENANTHRENE	0.0040	PPM	0.00005	
		PYRENE	0.011	PPM	0.00005	

SURROGATE

OBSERVED RECOVERY 50%-150%

84.61 ug/L

RECEIVED

JUN 14 1997

KOPPERS INDUS. INC.  
PORTLAND, OR

REVIEWED BY:

Martin Little Laboratory Manager

COPY

Columbia Inspection, Inc. 7133 N Lombard St. - Portland, OR 97203 (503) 286-9464 Fax (503) 286-5355

PERMITTEE NAME/ADDRESS (Include

Facility Name/Location if different)

NAME

KOPPERS INDUSTRIES, INC.

ADDRESS 7540 NW ST. HELENS RD.

PORTLAND, OR 97210

FACILITY NORTHWEST PLANT

LOCATION MULTNOMAH CO.

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)

DISCHARGE MONITORING REPORT (DMR)

(2-16)

(17-19)

101003

PERMIT NUMBER

001

DISCHARGE NUMBER

3077-J

Form Approved.

OMB No. 2040-0004

Approval expires 10-31-94

47430

MONITORING PERIOD

FROM	YEAR	MO	DAY	TO	YEAR	MO	DAY
	97	02	01		97	02	28
	(20-21)	(22-23)	(24-25)		(26-27)	(28-29)	(30-31)

NOTE: Read instructions before completing this form.

PARAMETER (32-37)		(3 Card Only) QUANTITY OR LOADING (46-53)			(4 Card Only) QUALITY OR CONCENTRATION (54-61)				NO. EX (62-63)	FREQUENCY OF ANALYSIS (64-68)	SAMPLE TYPE (69-70)
		AVERAGE	MAXIMUM	UNITS	MINIMUM	AVERAGE	MAXIMUM	UNITS			
FLOW	SAMPLE MEASUREMENT	7857		GPD						6/28	EST.
	PERMIT REQUIREMENT								N/A	10/31	
TEMP.	SAMPLE MEASUREMENT				48	50	51	°F	0	6/28	GRAB
	PERMIT REQUIREMENT										
PH	SAMPLE MEASUREMENT				7.1	7.2	7.2	SU	0	6/28	GRAB
	PERMIT REQUIREMENT										
OIL & GREASE	SAMPLE MEASUREMENT				N.D.	1.5	3.0	MG/L	0	6/28	GRAB
	PERMIT REQUIREMENT										
PHENOLS	SAMPLE MEASUREMENT				.07	.10	.12	MG/L	0	6/28	GRAB
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										

Post-It Fax Note

To: Bill Swearingen

Co/Dept:

Phone #

Fax #

Date: 7671

From: K11-Portland

Co:

Phone #

Fax #

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER

A.S. KAMERER plant mgr

TYPED OR PRINTED

I CERTIFY AND AM I ON MY OBTAINING TRUE AC SIGNIFICANT THE POS 33 USC \$10,000 MA

I HAVE PERSONALLY EXAMINED SUBMITTED HEREIN AND BASED IMMEDIATELY RESPONSIBLE FOR THE SUBMITTED INFORMATION IS IN AWARE THAT THERE ARE FALSE INFORMATION, INCLUDING ENT. SEE 18 USC § 1001 AND penalties may include fines up to in 6 months and 5 years.

A.S. KAMERER

SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT

TELEPHONE

503 286-3681

AREA CODE

NUMBER

DATE

97 03 04

YEAR

MO

DAY

COMMENT AND EXPLANATION OF ANY VIOLATIONS (Ref.)



# CERTIFICATE OF ANALYSIS

CLIENT: KOPPERS INDUSTRIES, INC.  
7540 NW ST. HELENS ROAD  
PORTLAND OR 97210-3663

PHONE: (503) 286-3681  
FAX: (503) 285-2831

DATE SUBMITTED: 02/12/97

PO#:

PROJECT NAME: WW 1.3.5

CI SAMPLE #	CLIENTS ID#	DATE	TIME	DESCRIPTION
970211-001-01	WW 1.3.5	02/12/97	1300	Wastewater Grab
970211-001-02	WW 1.3.5	02/12/97	1300	Wastewater Grab

REPORT DATE: 02/14/97

REPORT NUMBER: 970211

PAGE: 1 Of 1

SAMPLE	TEST	PARAMETER	RESULT	UNIT	DETECTION LIMIT	ANALYST
WW 1.3.5						
970211-001-01	O&G, TOTAL, GRAV EPA 413.1/9070	TOTAL OIL & GREASE	3.0	PPM	2	Dick R.
970211-001-02	PHENOLS, TOTAL EPA 420.1	TOTAL RECOVERABLE PHENOLICS	0.07	PPM	0.08	Dick R.

REVIEWED BY:

  
Richard D. Reid Laboratory Director



# CERTIFICATE OF ANALYSIS

CLIENT: KOPPERS INDUSTRIES, INC.  
7540 NW ST. HELENS ROAD  
PORTLAND OR 97210-3663

PHONE: (503) 286-3681  
FAX: (503) 285-2831

DATE SUBMITTED: 02/21/97

PO#:

PROJECT NAME: WASTE WATER ANALYSIS FOR TANKS 2,4, 86

CI SAMPLE #	CI INTS TO#	DATE	TIME	DESCRIPTION
970252-001-01	WW 2,4 & 6	02/20/97	1530	WASTE WATER GRAB SAMPLE
970252-001-02	WW 2,4 & 6	02/20/97	1530	WASTE WATER GRAB SAMPLE


REPORT DATE: 02/27/97

REPORT NUMBER: 970252

PAGE: 1 OF 1

SAMPLE	TEST	PARAMETER	RESULT	UNIT	DETECTION LIMIT	ANALYST
970252-001-01	O&G. TOTAL. GRAV EPA 413.1/9070	TOTAL OIL & GREASE	ND	PPM	2	Dick R.
970252-001-02	PHENOLS. TOTAL EPA 420.1	TOTAL RECOVERABLE PHENOLICS	0.12	PPM	0.06	Dick R.

REVIEWED BY:

  
Richard O. Reid - Laboratory Director

Columbia Inspection, Inc. 7133 N Lombard St. - Portland, OR 97203 (503) 286-9464 Fax (503) 286-5355

PERMITTEE NAME/ADDRESS (Include  
Facility Name/Location if different)NAME KOPPERS IND., INC.ADDRESS 7540 NW ST. HELENS RD.PORTLAND, OR 97210FACILITY NW PLANTLOCATION MULTNOMAH COUNTYNATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)  
DISCHARGE MONITORING REPORT (DMR)

(2-16)

(17-19)

101003

001

3077-J

PERMIT NUMBER

DISCHARGE NUMBER

Form Approved.

OMB No. 2040-0004

Approval expires 10-31-94

## MONITORING PERIOD

FROM YEAR MO DAY TO YEAR MO DAY  
97 01 01 97 01 31  
(20-21) (22-23) (24-25) (26-27) (28-29) (30-31)

47430

NOTE: Read instructions before completing this form.

PARAMETER (32-37)	X	(3 Card Only) QUANTITY OR LOADING (46-53)			(4 Card Only) QUALITY OR CONCENTRATION (38-45) (46-53) (54-61)				NO. EX (62-63)	FREQUENCY OF ANALYSIS (64-68)	SAMPLE TYPE (69-70)	
		AVERAGE	MAXIMUM	UNITS	MINIMUM	AVERAGE	MAXIMUM	UNITS				
FLOW	SAMPLE MEASUREMENT	32,903		CPD						N/A	16/31	EST.
	PERMIT REQUIREMENT											
TEMP	SAMPLE MEASUREMENT				44	45	46	°F	0	16/31	GRAB	
	PERMIT REQUIREMENT											
pH	SAMPLE MEASUREMENT				7.0	7.1	7.2	SU	0	16/31	GRAB	
	PERMIT REQUIREMENT											
OIL & GREASE	SAMPLE MEASUREMENT				3.0	6.5	10.0	Mg/L	0	16/31	GRAB	
	PERMIT REQUIREMENT											
PHENOLS	SAMPLE MEASUREMENT				.05	.10	.14	Mg/L	0	16/31	GRAB	
	PERMIT REQUIREMENT											
	SAMPLE MEASUREMENT											
	PERMIT REQUIREMENT											
	SAMPLE MEASUREMENT											
	PERMIT REQUIREMENT											
NAME/TITLE PRINCIPAL EXECUTIVE OFFICER		I CERTIFY UNDER PENALTY OF LAW THAT I HAVE PERSONALLY EXAMINED AND AM FAMILIAR WITH THE INFORMATION SUBMITTED HEREIN AND BASED ON MY INQUIRY OF THOSE INDIVIDUALS IMMEDIATELY RESPONSIBLE FOR OBTAINING THE INFORMATION I BELIEVE THE SUBMITTED INFORMATION IS TRUE, ACCURATE AND COMPLETE. I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION, INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT. SEE 18 USC, § 1001 AND 33 USC, § 1318. (Penalties under these statutes may include fines up to \$10,000 and or maximum imprisonment of between 6 months and 5 years.)										
R.D. COLLINS, VP TYPED OR PRINTED		A.S. HAMERER, PLT. MGR. SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT										
		TELEPHONE		DATE								
		503 286-3681		97 02 03								
		AREA CODE NUMBER		YEAR MO DAY								

COMMENT AND EXPLANATION OF ANY VIOLATIONS (Reference all attachments here)



# **KOPPERS INDUSTRIES**

To: Amos Kamerer  
Location: Portland  
Subject: Renewal of Industrial  
Wastewater Discharge Permit  
# 314.001

From: Traci Self  
Location: K-1800  
Date: March 15, 1999

Per our conversation, I am forwarding the renewal application for permit #314.001. The application must be submitted by October 1, 1999. If I can be of any assistance, please contact me.



# CITY OF PORTLAND ENVIRONMENTAL SERVICES



Water Pollution Control Laboratory  
6543 N. Burlington Ave., Portland, Oregon 97203-5452  
(503) 823-5600

March 10, 1999

Koppers Industries, Inc.  
William E. Swearingen  
436 Seventh Ave.  
Pittsburgh, PA. 15219-1800

MAR 15 1999

RE: Renewal of Industrial Wastewater Discharge Permit # 314.001

Dear Mr. Swearingen:

Your Industrial Wastewater Discharge Permit (#314-001) will expire on October 1, 1999. Due to the nature of Koppers Industries, Inc. operations, it is necessary that your facility submit an application for renewal of your discharge permit.

I have made some notes inside the permit application that I mailed to you. If there have been changes in the operations at Koppers Industries, Inc. please ensure they are detailed in the application. In addition, please pay special attention to any changes in chemicals used at your facility. Your completed application must be postmarked by October 1, 1999.

A \$50.00 renewal fee is required prior to permit renewal and should be sent with your application.

Your current wastewater discharge permit will be extended until the permit is renewed.

If you have any questions or comments, please do not hesitate to contact me at 823-5556.

Respectfully,

*Colleen F.G. Harold*

Colleen F.G. Harold, Permit Manager  
Industrial Source Control Division, Bureau of Environmental Services.

Koppers001725

# CBIS Water/Sewer Report

Account: 4640172034

Type of Service: 18

Company: KOPPERS COMPANY INC.

Other

7540 NW ST HELENS R

Meter Type:	065	065	065	066	000	000
Sanitary Factor:	0	0	0	100	0	0
ESSC Factor:	0	0	0	0	0	0

Month	Water	Sewer	Meter 1	Meter 2	Meter 3	Meter 4	Meter 5	Meter 6
-------	-------	-------	---------	---------	---------	---------	---------	---------

9703	128	0	0	117	0	11	0	0
------	-----	---	---	-----	---	----	---	---

9704	138	0	0	127	0	11	0	0
------	-----	---	---	-----	---	----	---	---

9705	159	0	0	145	0	14	0	0
------	-----	---	---	-----	---	----	---	---

9706	107	0	0	97	0	10	0	0
------	-----	---	---	----	---	----	---	---

9707	130	0	0	116	0	14	0	0
------	-----	---	---	-----	---	----	---	---

9708	157	0	0	143	0	14	0	0
------	-----	---	---	-----	---	----	---	---

9709	144	0	1	130	0	13	0	0
------	-----	---	---	-----	---	----	---	---

9710	138	0	0	116	0	22	0	0
------	-----	---	---	-----	---	----	---	---

9711	161	0	0	133	0	28	0	0
------	-----	---	---	-----	---	----	---	---

9712	169	0	0	146	0	23	0	0
------	-----	---	---	-----	---	----	---	---

9801	167	0	0	143	0	24	0	0
------	-----	---	---	-----	---	----	---	---

9802	190	0	0	164	0	26	0	0
------	-----	---	---	-----	---	----	---	---

9803	160	0	0	135	0	25	0	0
------	-----	---	---	-----	---	----	---	---

9804	205	0	0	177	0	28	0	0
------	-----	---	---	-----	---	----	---	---

9805	206	0	0	164	0	42	0	0
------	-----	---	---	-----	---	----	---	---

9806	143	0	0	118	0	25	0	0
------	-----	---	---	-----	---	----	---	---

9807	257	0	0	210	0	47	0	0
------	-----	---	---	-----	---	----	---	---

9808	256	0	2	217	0	37	0	0
------	-----	---	---	-----	---	----	---	---

9809	208	0	0	173	0	35	0	0
------	-----	---	---	-----	---	----	---	---

9810	278	0	0	240	0	38	0	0
------	-----	---	---	-----	---	----	---	---

9811	284	0	1	242	0	41	0	0
------	-----	---	---	-----	---	----	---	---

9812	280	0	0	238	0	42	0	0
------	-----	---	---	-----	---	----	---	---

9901	290	0	0	253	0	37	0	0
------	-----	---	---	-----	---	----	---	---

9902	375	0	0	334	0	41	0	0
------	-----	---	---	-----	---	----	---	---

IN

IN  
OUT

Volumes in ccf

65 = Water meter only

66 = Sewer meter only

67 = Water/Sewer meter

09-March-1999

Koppers001726

# STORMWATER SYSTEM CONSTRUCTION PLANS AND DETAILS

KOPPERS, INC.  
PORTLAND, OREGON

JULY 2008

PREPARED FOR  
KOPPERS, INC.  
7540 NW ST. HELENS ROAD  
PORTLAND, OREGON

PREPARED BY

 **Shaw** ENVIRONMENTAL, Inc.  
10300 SW NIMBUS AVENUE, SUITE B  
PORTLAND, OREGON 97223-4345  
Tel. (503) 603-1000  
Fax. (503) 603-1001

**CLIENT REVIEW DRAFT  
NOT FOR CONSTRUCTION**



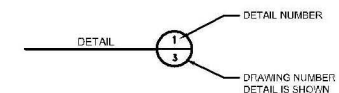
SITE LOCATION MAP  
(NOT TO SCALE)



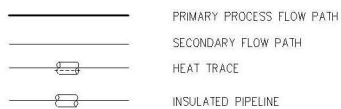
VICINITY MAP  
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INDEX OF DRAWINGS			
DRAWING NUMBER	DRAWING TITLE	REVISION NO.	DATE
	COVER SHEET	0	07/17/2008
1	SYMBOLS AND ABBREVIATIONS	0	07/17/2008
2	PROCESS FLOW DIAGRAM - COLLECTION & STORAGE SYSTEM	0	07/17/2008
3	PROCESS FLOW DIAGRAM - TREATMENT & DISPOSAL SYSTEM	0	07/17/2008
4	PIPING AND INSTRUMENTATION DIAGRAM	0	07/17/2008
5	GENERAL ARRANGEMENT (PLAN VIEW)	0	07/17/2008
6	SECTIONS A-A' AND B-B'	0	07/17/2008
7	SECTION C-C'	0	07/17/2008
8	DETAILS (SHEET PENDING)	0	07/17/2008
9	ELECTRICAL SYSTEM DIAGRAM	0	07/17/2008
10	CABLE AND CONDUIT PLAN - UPPER YARD	0	07/17/2008
11	CABLE AND CONDUIT PLAN - LOWER YARD	0	07/17/2008
12	INSTRUMENTATION (SHEET PENDING)	0	07/17/2008

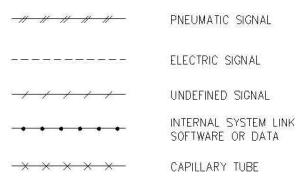
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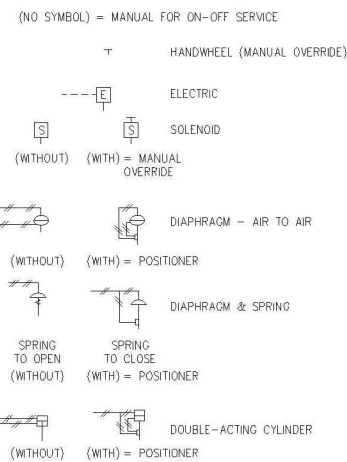
## PIPING SYMBOLS



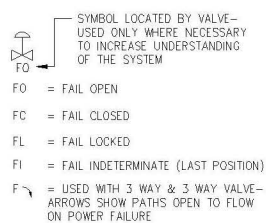
## INSTRUMENT LINE SYMBOLS



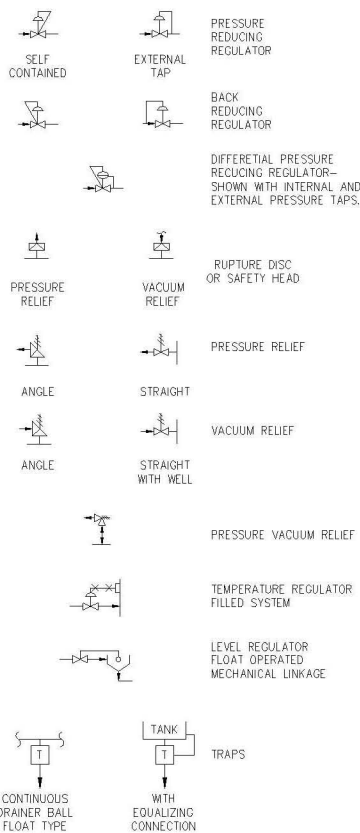
## VALVE ACTUATOR SYMBOLS



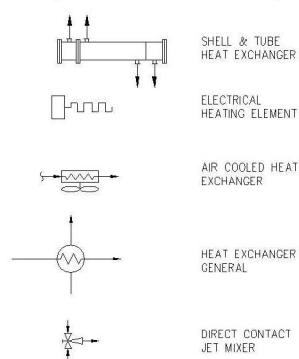
## SYMBOLS FOR VALVE ACTION IN THE EVENT OF ACTUATOR POWER FAILURE



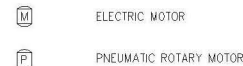
## SYMBOLS FOR SELF-ACTUATED REGULATORS



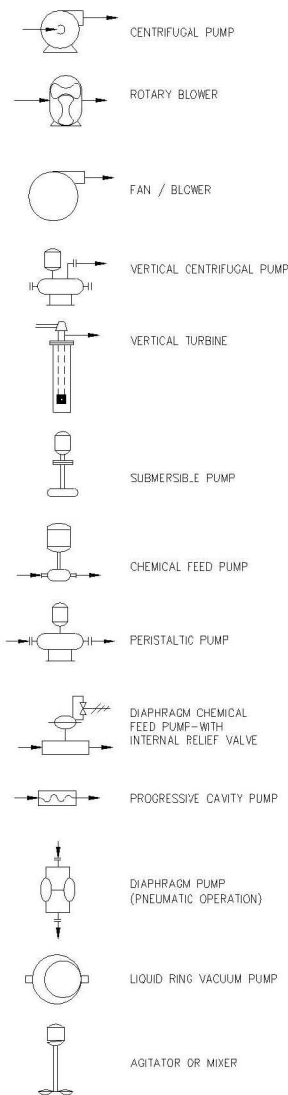
## HEAT EXCHANGER SYMBOLS



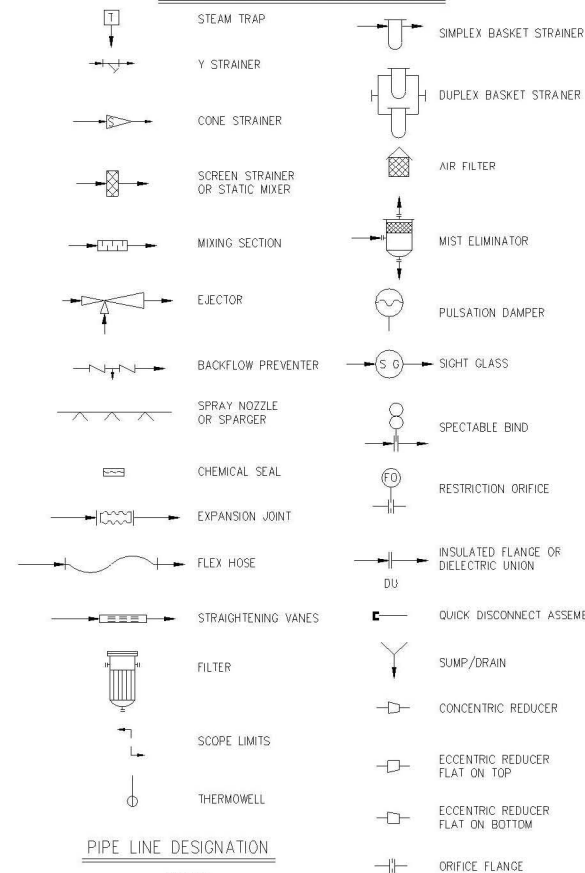
## PRIME MOVERS FOR MOTOR DRIVEN EQUIPMENT



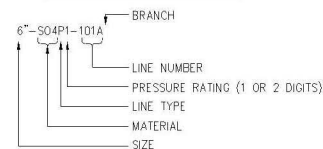
## MOTOR DRIVEN EQUIPMENT



## PIPING ACCESSORIES AND DETAILS



## PIPE LINE DESIGNATION



## MATERIAL

BRZ - BRASS/BRONZE  
CIR - CAST IRON  
CST - CARBON STEEL  
CPR - COPPER  
FRP - FIBERGLASS  
GCS - GALVANIZED CARBON STEEL  
LCS - LINED CARBON STEEL  
TEF - TEFLON  
CVC - CHLORINATED POLYVINYL CHLORIDE

PET - POLYETHYLENE  
POP - POLYPROPYLENE  
PVC - POLYVINYL CHLORIDE  
RUB - RUBBER  
S04 - 304 STAINLESS STEEL  
S04L - 304L STAINLESS STEEL  
S16 - 316 STAINLESS STEEL  
S06L - 316L STAINLESS STEEL  
VIT - VITON

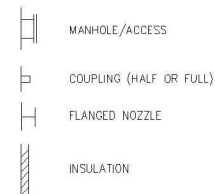
## TYPE

D = DUCT P = PIPE  
H = HOSE T = TUBE

## VALVE SYMBOLS



## TANK ACCESSORIES

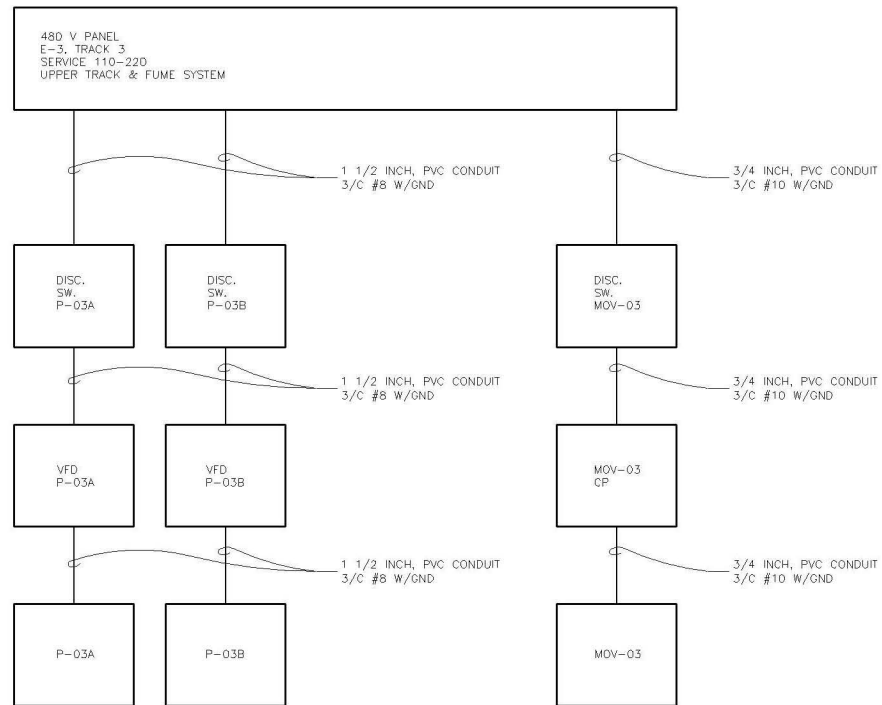
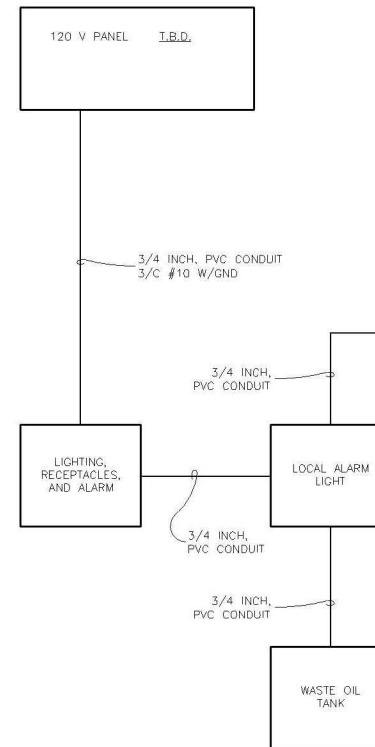
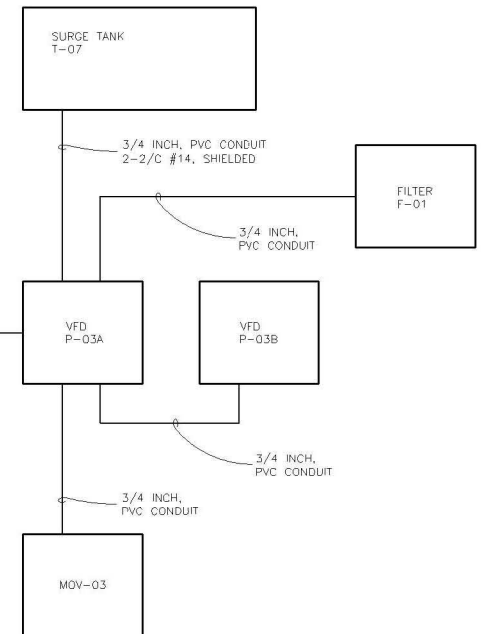
CLIENT REVIEW DRAFT  
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Portland, Oregon 97223  
Phone (503) 603-1000  
Fax (503) 603-1001

## FIGURE 1

## SYMBOLS AND ABBREVIATIONS

KOPPERS, INC.  
7540 NW ST. HELENS ROAD  
PORTLAND, OREGON

480 V POWER120 V POWER120 V CONTROLS

## NOTES:

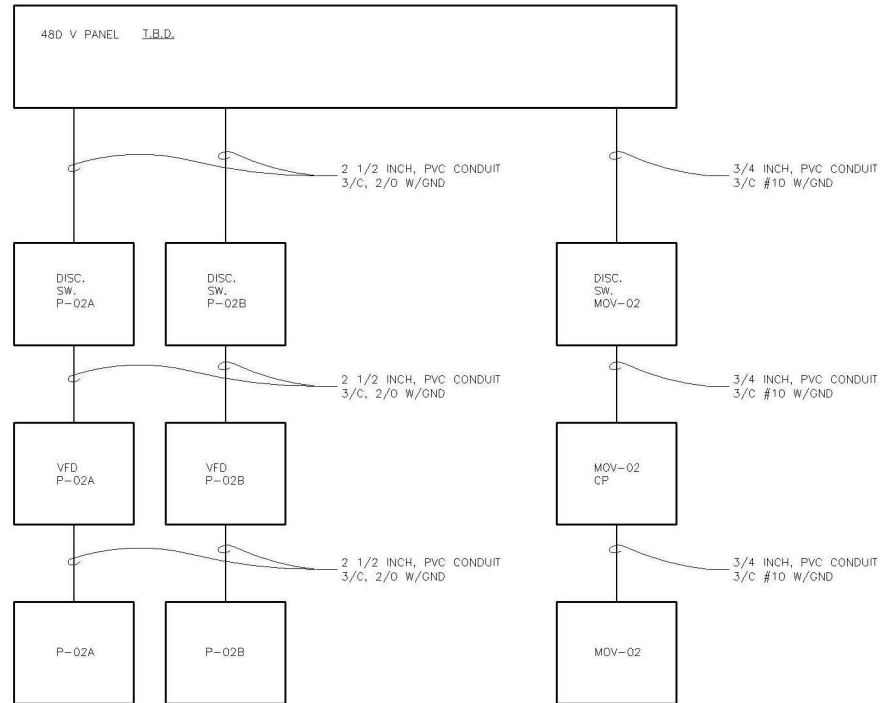
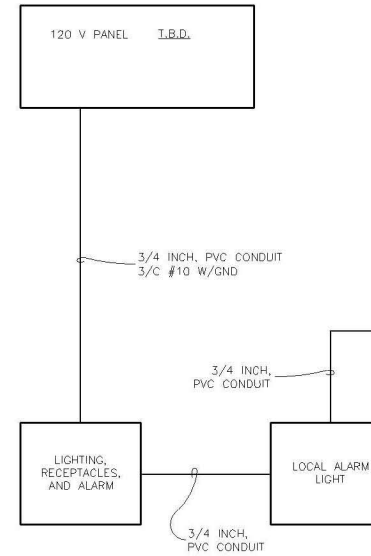
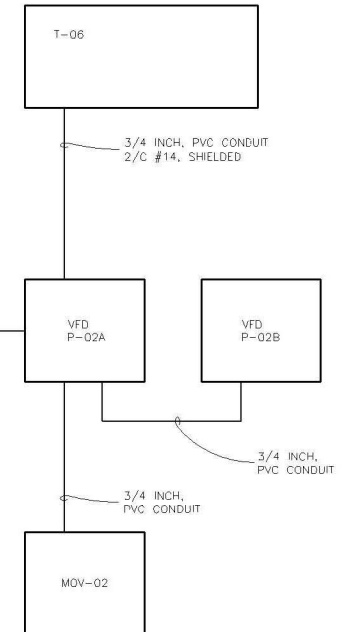
1. ALL CONDUITS TO BE FIELD ROUTED USING EXISTING PIPE BRIDGES AND OTHER EXISTING STRUCTURAL MEMBERS.

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**FIGURE 10  
CONDUIT AND CABLE PLAN -  
UPPER YARD  
KOPPERS, INC.  
7540 NW ST. HELENS ROAD  
PORTLAND, OREGON**

480 V POWER120 V POWER120 V CONTROLS

## NOTES:

1. ALL CONDUITS TO BE FIELD ROUTED USING EXISTING PIPE BRIDGES AND OTHER EXISTING STRUCTURAL MEMBERS.

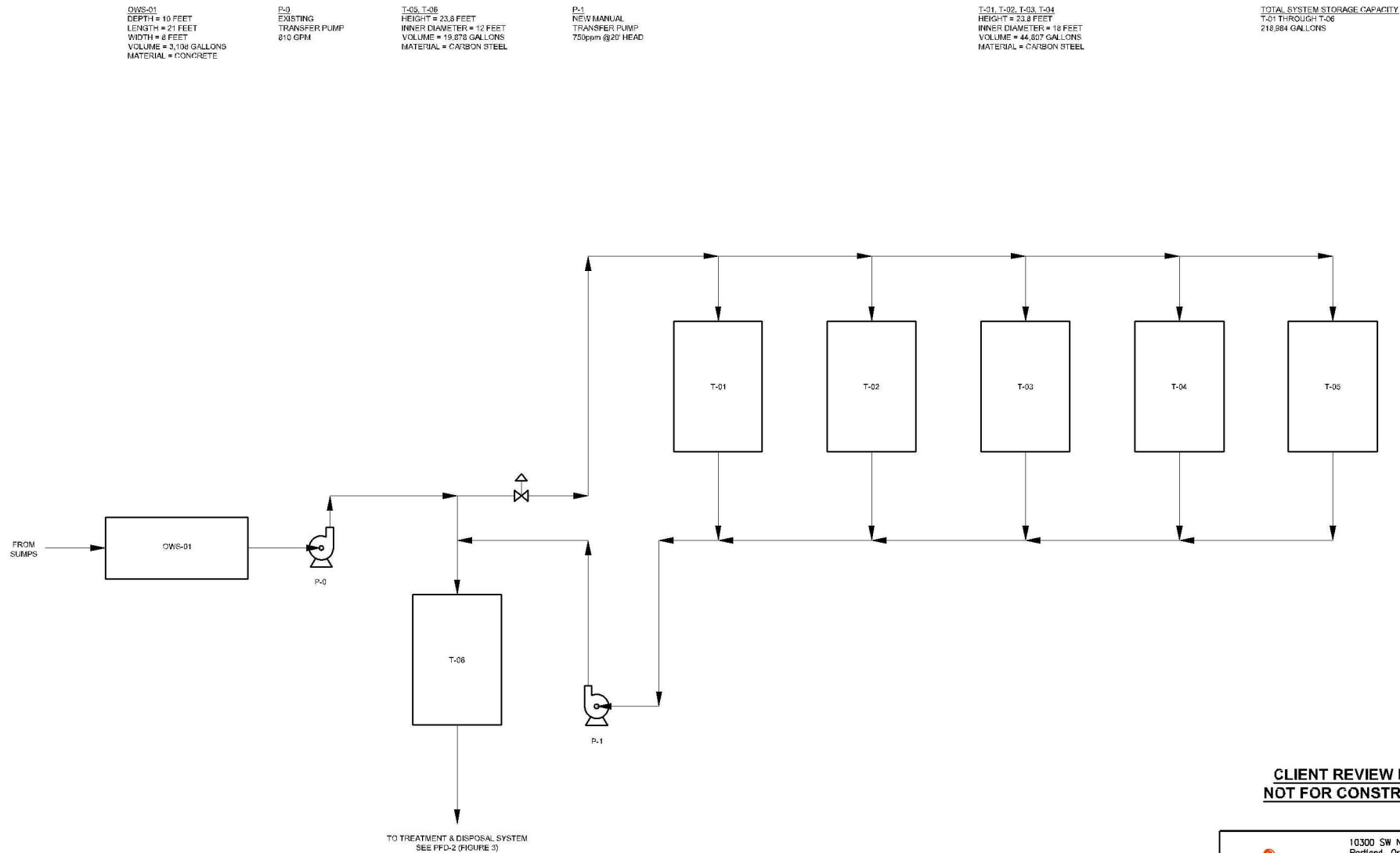
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Phone (503) 603-1000  
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**Shaw** Shaw Environmental, Inc.

**FIGURE 11  
CONDUIT AND CABLE PLAN -  
LOWER YARD  
KOPPERS, INC.  
7540 NW ST. HELENS ROAD  
PORTLAND, OREGON**



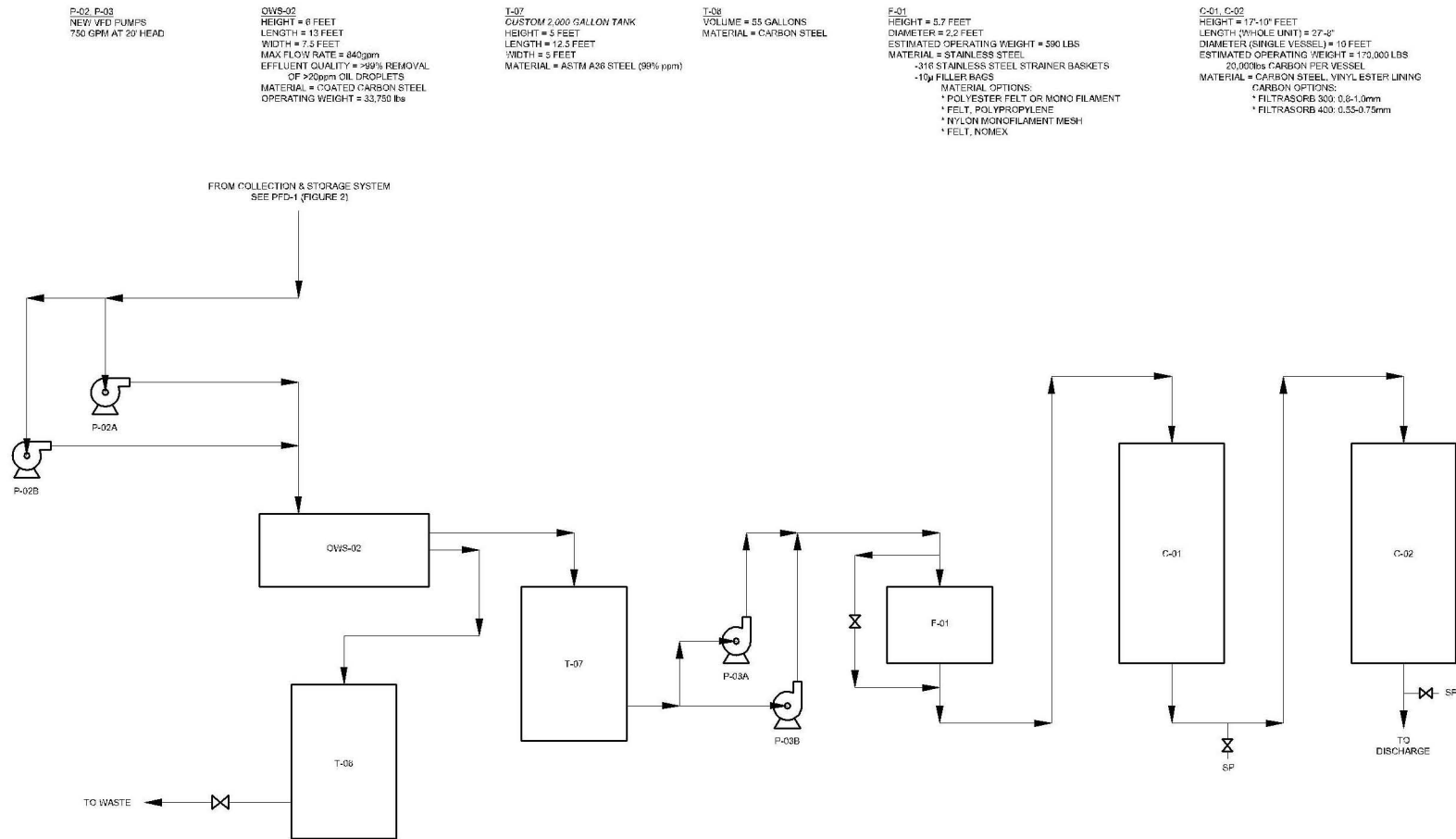
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**FIGURE 2**  
**PROCESS FLOW DIAGRAM -**  
**COLLECTION & STORAGE SYSTEM**  
**KOPPERS, INC.**  
7540 NW ST. HELENS ROAD  
PORTLAND, OREGON



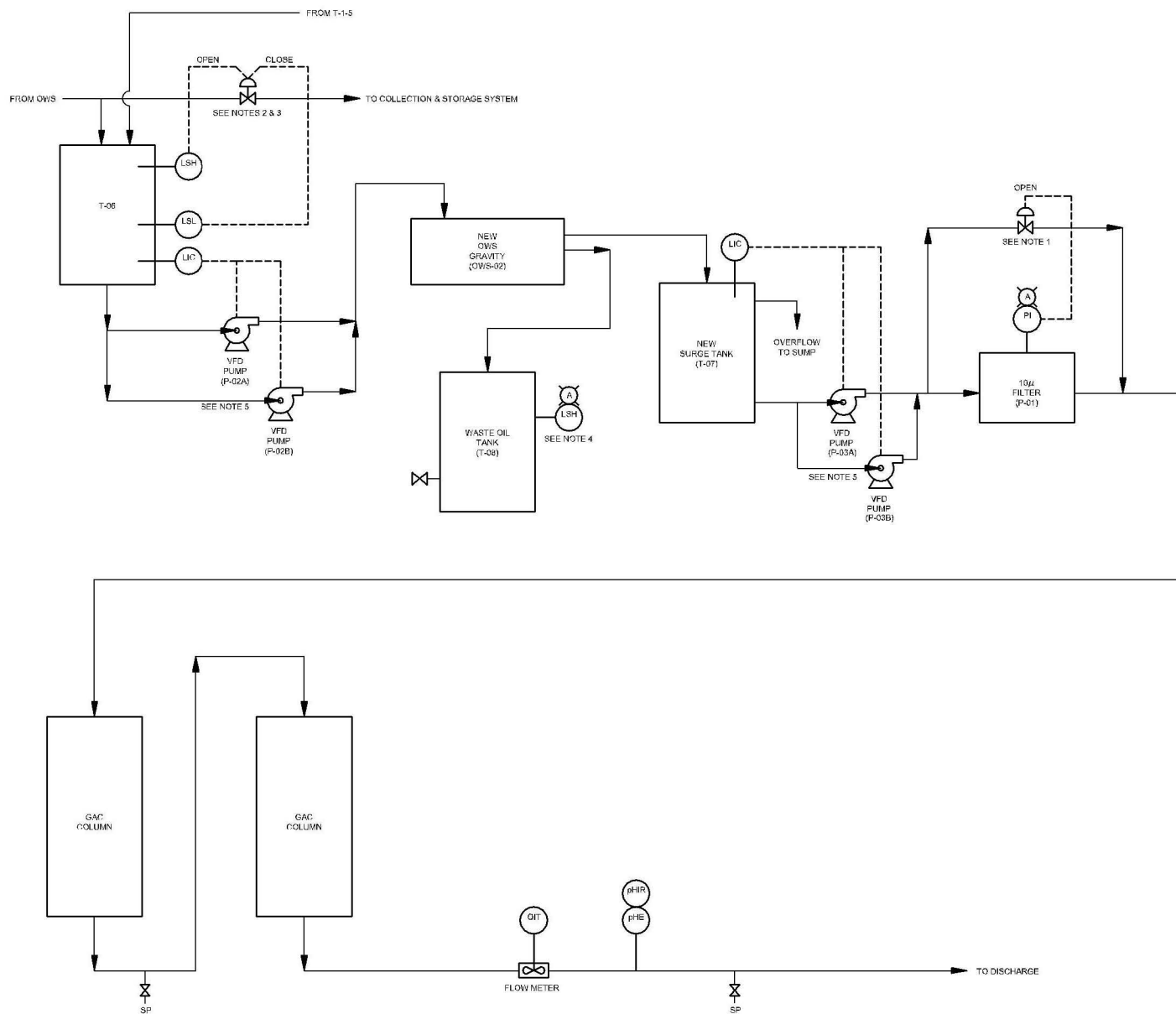


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**FIGURE 3**  
**PROCESS FLOW DIAGRAM -**  
**TREATMENT & DISPOSAL SYSTEM**  
**KOPPERS, INC.**  
**7540 NW ST. HELENS ROAD**  
**PORTLAND, OREGON**



## NOTES:

1. ALARM AND OPEN MOV ON HIGH PRESSURE (40 psig)
2. OPEN ON HIGH LEVEL (TOP OF TANK MINUS 12 INCHES)
3. CLOSE ON LOW LEVEL (TOP OF TANK MINUS 36 INCHES)
4. ALARM ON HIGH LEVEL (TOP OF TANK MINUS 12 INCHES)
5. VFD PUMPS A & B DESIGNED FOR PARALLEL OPERATION WITH LEAD-FOLLOW CAPABILITY

## LEGEND

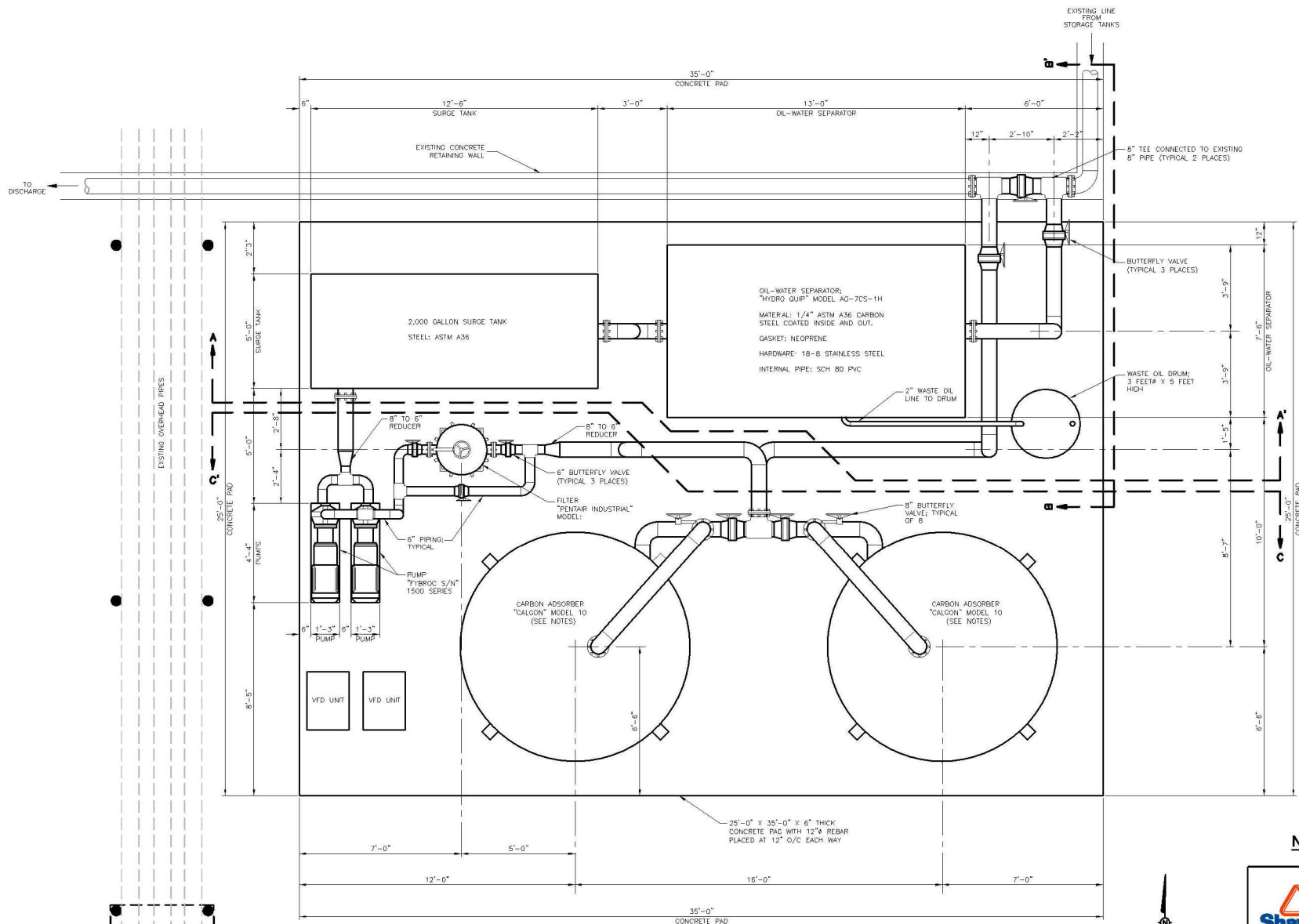
A	ALARM
GAC	GRANULAR ACTIVATED CARBON
LIC	LEVEL INDICATING CONTROLLER
LSH	LEVEL SWITCH HIGH
LSL	LEVEL SWITCH LOW
OWS	OIL/WATER SEPARATOR
pH-E	pH ELEMENT
pH-R	pH INDICATING RECORDER
PI	PRESSURE INDICATOR
QIT	FLOW INDICATING TOTALIZER
SP	SAMPLE POINT
VFD	VARIABLE FREQUENCY DRIVE

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**FIGURE 4  
PIPING AND INSTRUMENTATION  
DIAGRAM**  
KOPPERS, INC.  
7540 NW ST. HELENS ROAD  
PORTLAND, OREGON

**GENERAL NOTES:**

1. ALL DIMENSIONS ARE APPROXIMATE.
2. ALL PIPES ARE 8"Ø UNLESS OTHERWISE NOTED

**CARBON ADSORBER NOTES:**

1. ALL BUTTERFLY VALVES ARE CAST IRON WITH STAINLESS TRIM, AL/BRNZ DISC.
2. PROVIDE STAINLESS STEEL SCREENS AT SEPTA UNDER DRAIN.
3. VESSELS SHALL BE CARBON STEEL 125 PSI, ASME CODE.
4. FINISH INTERIOR WITH PLASITE 4110, PREPARE AND APPLY STRICTLY IN ACCORDANCE WITH MANUFACTURERS RECOMMENDATIONS AND NSF STANDARD 61.
5. PIPING MATERIALS SHALL MEET: CS PIPE ASTM A-53 BRAD E (ERW); CS FITTINGS AS-234, ASME B16.9; SS THREADED FITTINGS ASTM A-351; SS PIPE ASTM A-312; SS BW FITTINGS ASTM A-403; MI THREADED FITTINGS ASME B-16.3.
6. FINISH EXTERIOR WITH URETHANE 3-4 MIL DFT OVER EPOXY PRIMER 4-6 MIL DFT APPLIED PER MANUFACTURERS RECOMMENDATION.
7. SYSTEM ESTIMATED WEIGHTS:  
SHIPPING: 38,500 LBS.  
OPERATING: 170,000 LBS.
8. GROUTED BY OTHERS IF REQUIRED.
9. DESIGNED FOR SEISMIC ZONE 4.
10. SYSTEM PROCESS CONNECTIONS: 8" 150# RF FLANGES, BOLTS STRADDLE.
11. CARBON CAPACITY: 20,000 LBS PER VESSEL.
12. MAX. PROCESS FLOW: 750 GPM SERIES 1500 GPM PARALLEL.
13. TYPICAL BACKWASH RATE (8X30 CARBON 55°F): 710 GPM.
14. OPERATING TEMPERATURE: 140°F MAX.

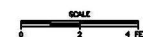
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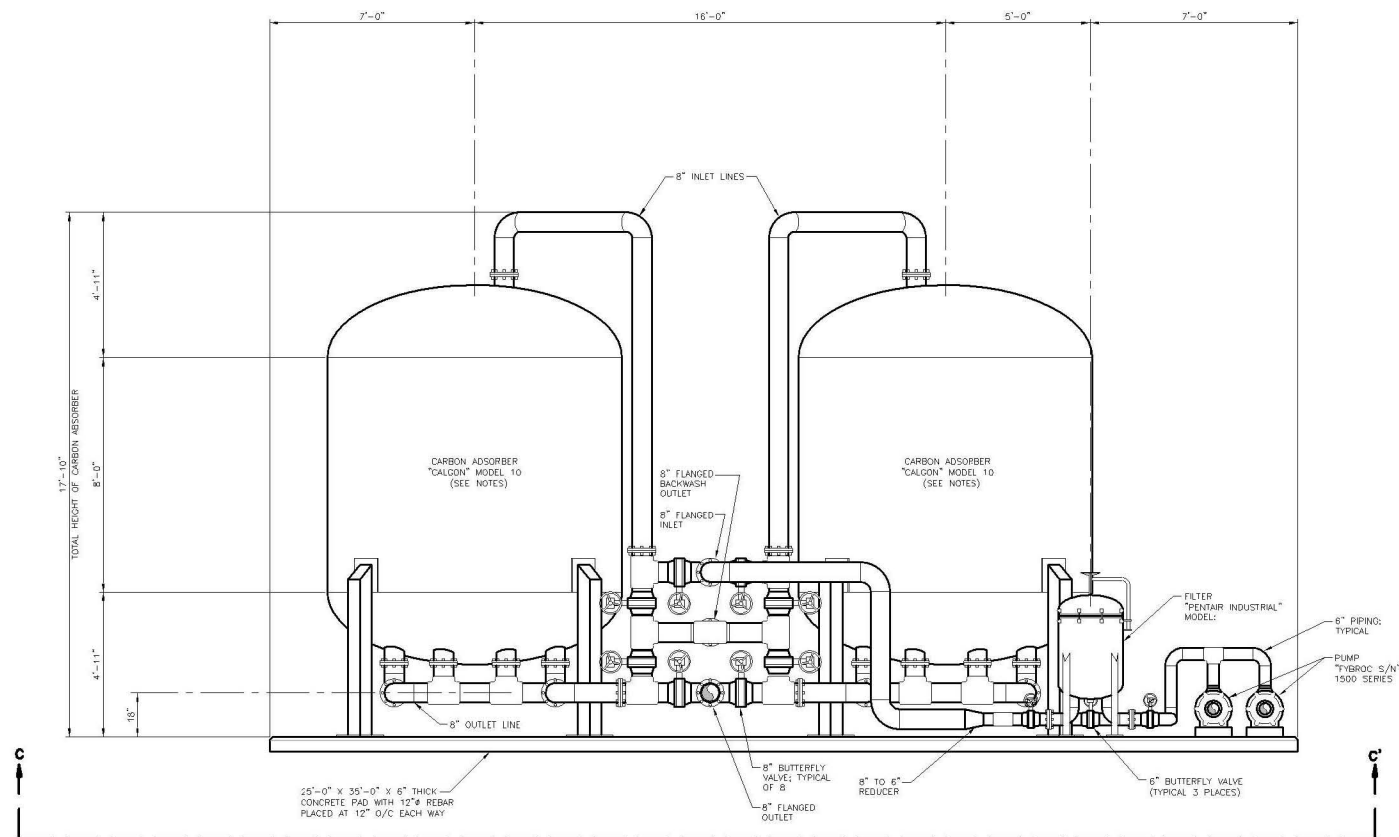


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Fax (503) 603-1001

**FIGURE 5  
GENERAL ARRANGEMENT  
(PLAN VIEW)  
KOPPERS, INC.  
7540 NW ST. HELENS ROAD  
PORTLAND, OREGON**

AGE --



**GENERAL NOTES:**

1. ALL DIMENSIONS ARE APPROXIMATE.
2. ALL PIPES ARE 8" UNLESS OTHERWISE NOTED.

**CARBON ADSORBER NOTES:**

1. ALL BUTTERFLY VALVES ARE CAST IRON WITH STAINLESS TRIM, AL/BRNZ DISC.
2. PROVIDE STAINLESS STEEL SCREENS AT SEPTA UNDER DRAIN.
3. VESSELS SHALL BE CARBON STEEL 125 PSI, ASME CODE.
4. FINISH INTERIOR WITH PLASITE 4110, PREPARE AND APPLY STRICTLY IN ACCORDANCE WITH MANUFACTURERS RECOMMENDATIONS AND NSF STANDARD 61.
5. PIPING MATERIALS SHALL MEET: CS PIPE ASTM A-53 GRADE B (ERW); CS FITTINGS AS-234, ASME B16.9; SS THREADED FITTINGS ASTM A-351; SS PIPE ASTM A-312; SS BW FITTINGS ASTM A-403; MI THREADED FITTINGS ASME B-16.3.
6. FINISH EXTERIOR WITH URETHANE 3-4 MIL DFT OVER EPOXY PRIMER 4-6 MIL DFT APPLIED PER MANUFACTURERS RECOMMENDATION.
7. SYSTEM ESTIMATED WEIGHTS:  
SHIPPING: 38,500 LBS.  
OPERATING: 170,000 LBS.
8. GROUTING BY OTHERS IF REQUIRED.
9. DESIGNED FOR SEISMIC ZONE 4.
10. SYSTEM PROCESS CONNECTIONS: 8" 150# RF FLANGES, BOLTS STRADDLE.
11. CARBON CAPACITY: 20,000 LBS PER VESSEL.
12. MAX. PROCESS FLOW: 750 GPM SERIES 1500 GPM PARALLEL.
13. TYPICAL BACKWASH RATE (8X30 CARBON SSF): 710 GPM.
14. OPERATING TEMPERATURE: 140°F MAX.

**CLIENT REVIEW DRAFT  
NOT FOR CONSTRUCTION**



10300 SW Nimbus Ave., Suite B  
Portland, Oregon 97223  
Phone (503) 603-1000  
Fax, (503) 603-1001

Shaw Shaw Environmental, Inc.

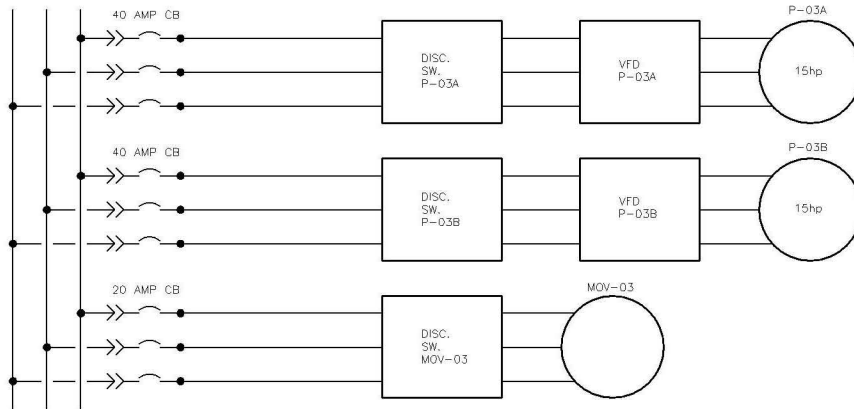
**FIGURE 7  
SECTION C-C'**

**KOPPERS, INC.  
7540 NW ST. HELENS ROAD  
PORTLAND, OREGON**

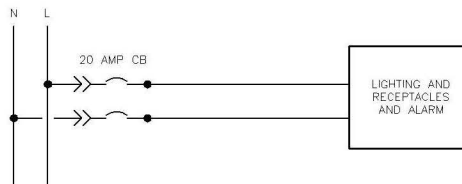
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0 2 4 FEET

UPPER YARD PUMPS

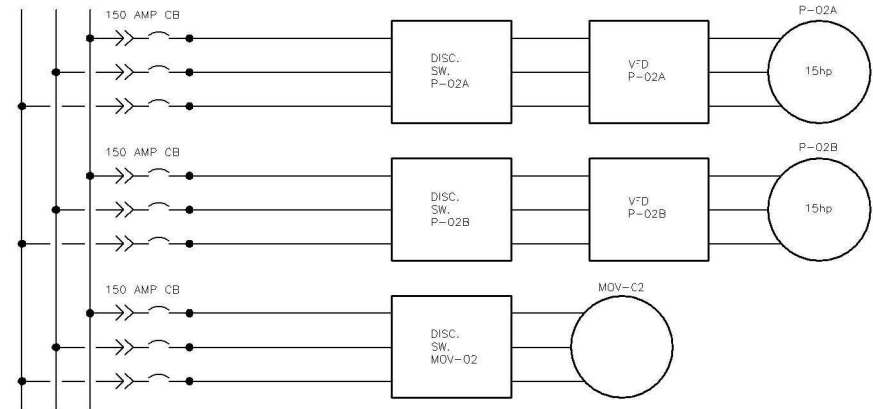
480 V PANEL  
E-3, TRACK 3  
SERVICE 110-220  
UPPER TRACK & FUME SYSTEM



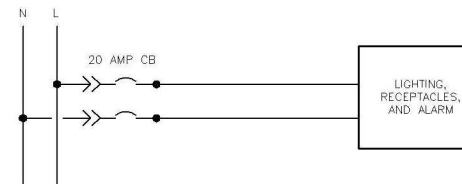
120 V PANEL I.B.D.

LOWER YARD PUMPS

480 V PANEL I.B.D.



120 V PANEL I.B.D.



**CLIENT REVIEW DRAFT  
NOT FOR CONSTRUCTION**



10300 SW Nimbus Ave., Suite B  
Portland, Oregon 97223  
Phone (503) 603-1000  
Fax (503) 603-1001

Shaw® Shaw Environmental, Inc.

**FIGURE 9  
ELECTRICAL SYSTEM DIAGRAM**

**KOPPERS, INC.  
7540 NW ST. HELENS ROAD  
PORTLAND, OREGON**



## **PRELIMINARY OPERATION PLAN KOPPERS 750 GPM SYSTEM**

This treatment system is designed to automatically initiate treatment during rain events and shut down at their conclusion. It is designed with a 20% contingency factor based on the estimated 600 gpm required for heavy rain events and provides for emergency storage of water should the rain event be extraordinary or the process not be working to its design capacity due to mechanical problems. The Process Instrumentation Diagram (Drawing 2) shows the operation methodology.

The existing system will be used with the following minor modifications:

- Storage Tank T-6 will be instrumented and isolated from the other 5 storage tanks by valves
- New higher capacity VFD pumps will be installed to provide level control at T-6

## **PROPOSED OPERATION**

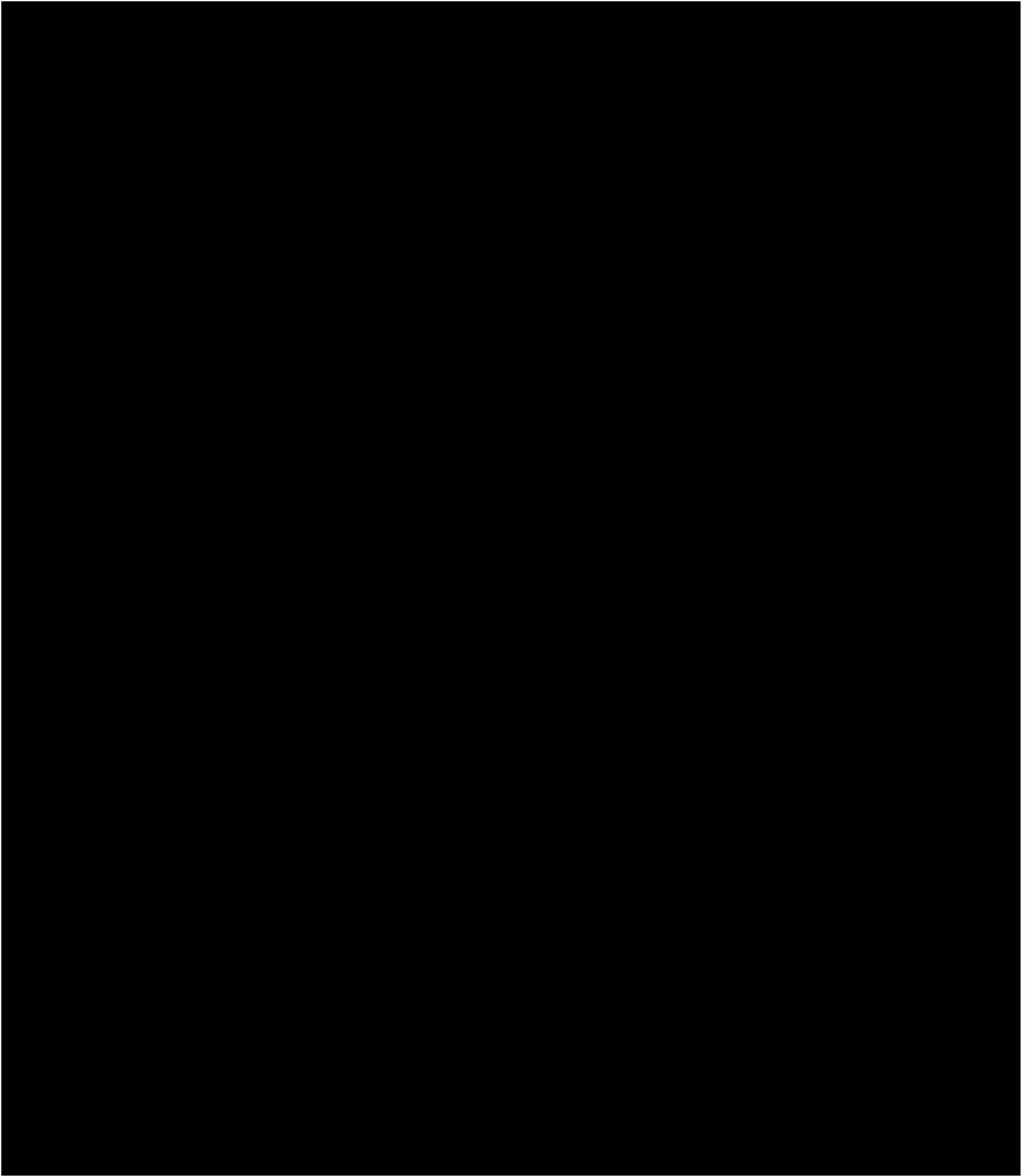
When a rain event starts, flow will be directed as it is now through the existing in ground oil water separator to storage tank T-6 which is equipped with a continuous output level indicator controller and two level switches. When the level in T-6 rises above the set point, the VFD pump starts and operates at a rate necessary to control the level in the tank. Should the level in the tank rise above the set point and reach the high level switch in the tank, an automatic valve will open and allow excess flow to go to the storage tank system. When the level in the tank falls to the low level switch the valve will close. Any water sent to emergency storage will be treated separately after the rain event is over.

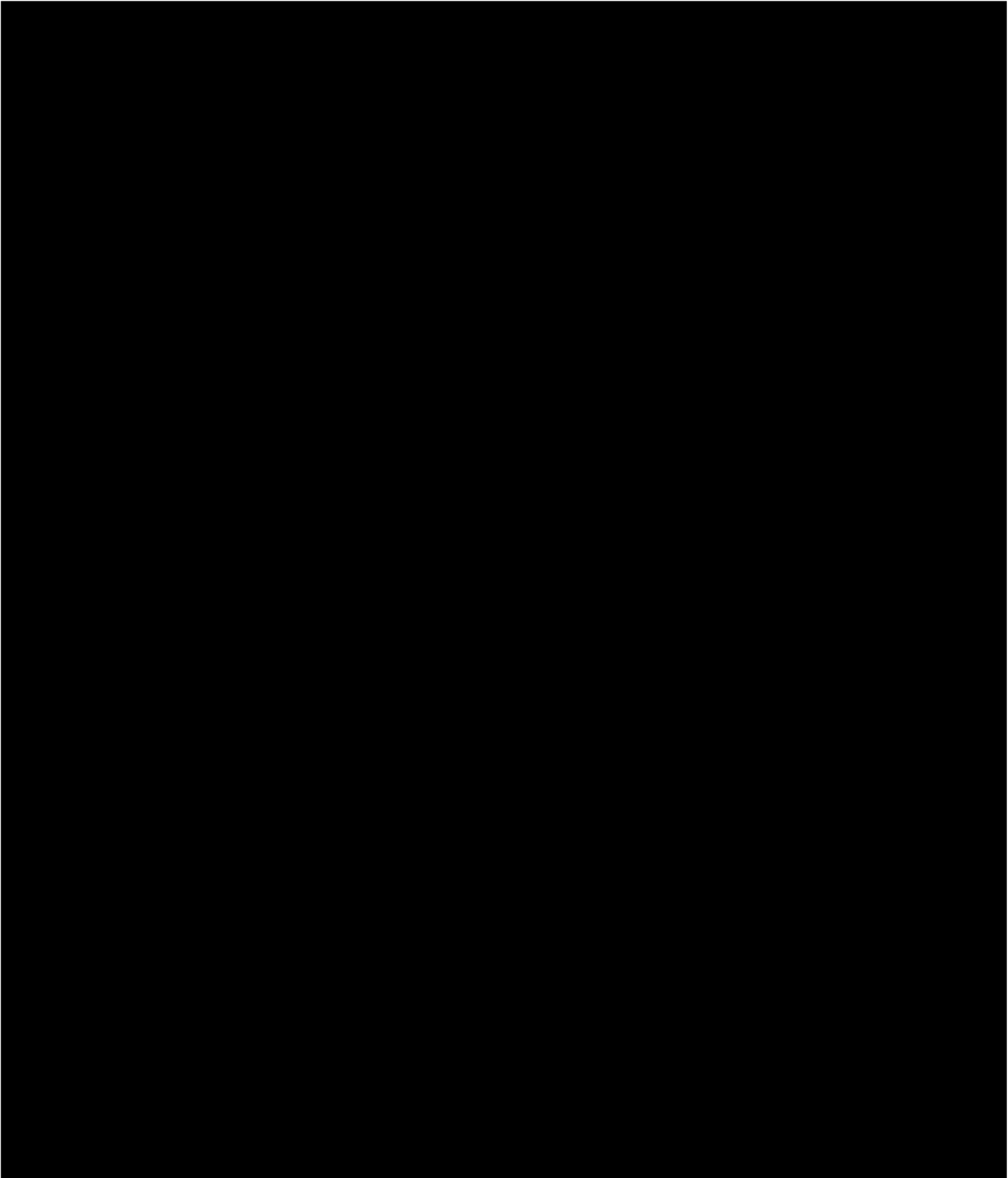
The untreated water then goes to a new state of the art coalescing plate oil water separator which will remove the light phase separable organic matter (oil basically) from the water and allow any solids to settle. The oil is collected in a waste tank for proper disposal. The water then flows by gravity into a surge tank equipped similar to T-6 with excess flow sent to the sump area which returns the water to the front of the process. Flow out of the tank is controlled by the level indicator controller in the tank operating the VFD pump which feeds the lead/lag liquid phase granular activated carbon system through a 10 micron filter to remove any small solid which could act to plug the carbon columns. The carbon system will remove by adsorption the remaining soluble organic materials left in the water after the oil water separator. The lead/lag configuration is meant to insure that no untreated water is discharged. When the capacity of the carbon is used up in the lead tank as determined by breakthrough of one of the regulated compounds sampled between

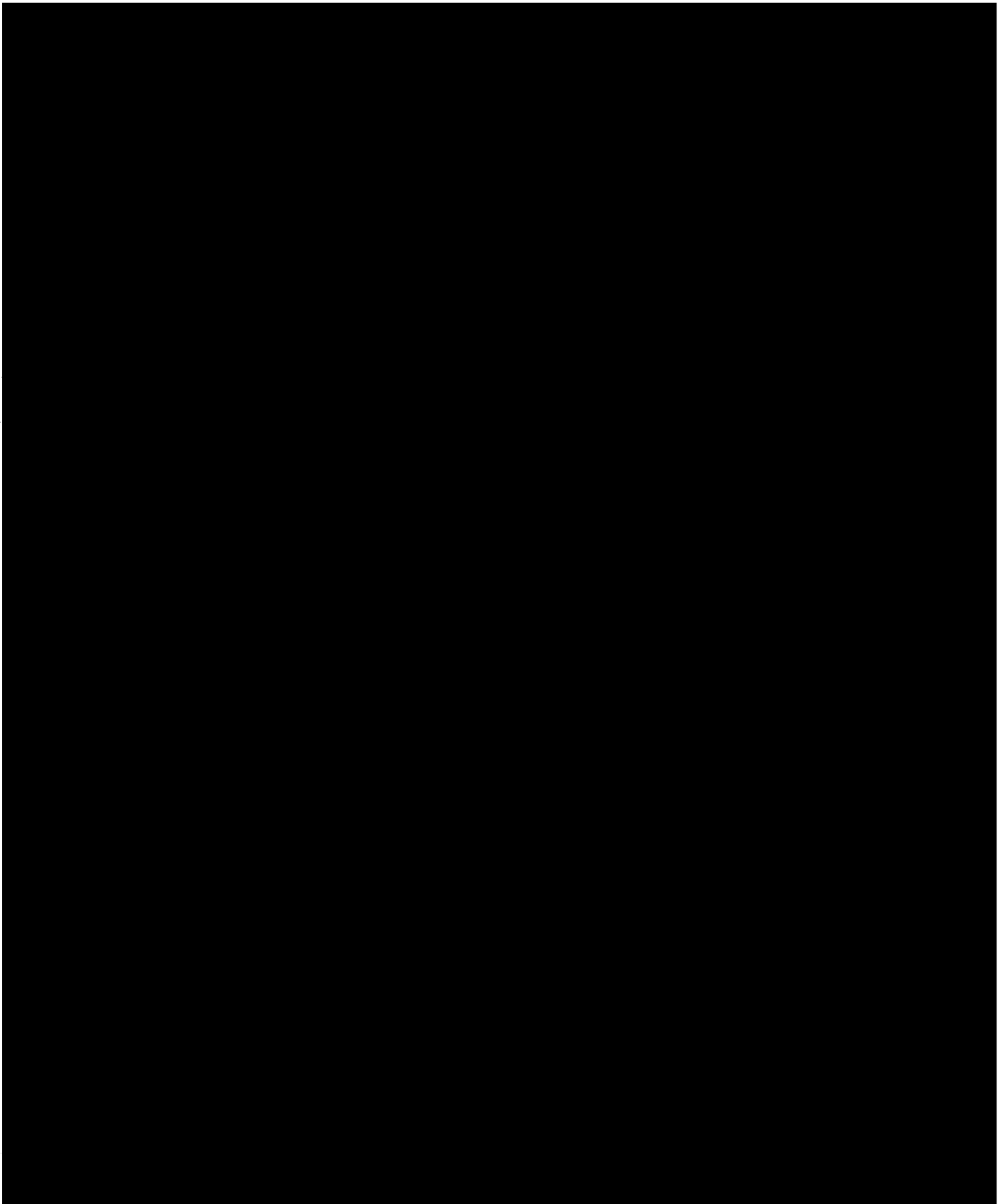
the columns during the rain event, the valving on the columns is changed making the lag column the lead column, the spent carbon is disposed of properly and new carbon is added and that column becomes the new lag column.

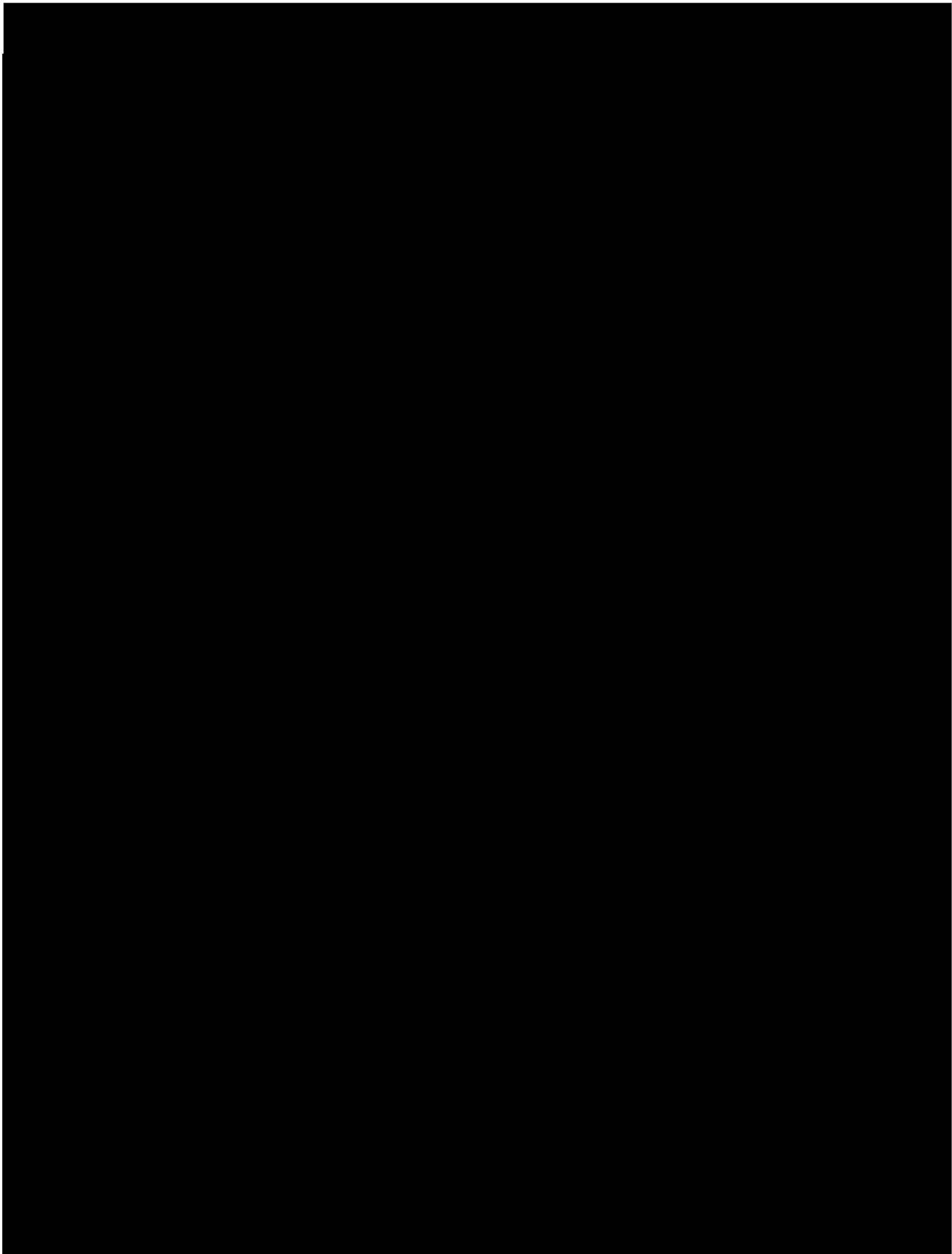
The treated water is sampled after the second column as per ODEQ requirements and the flow discharged is recorded from a non resettable flow meter after each rain event.



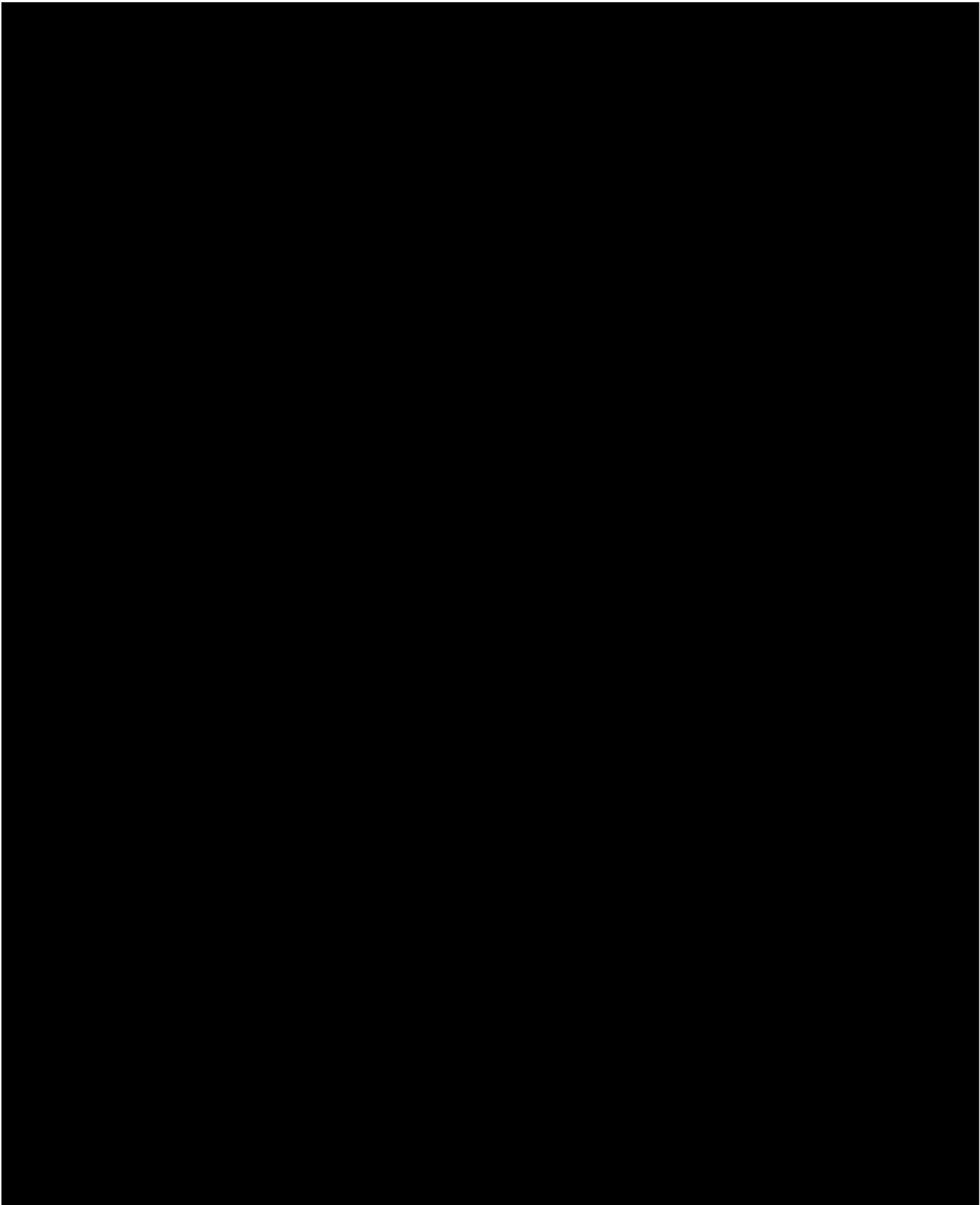


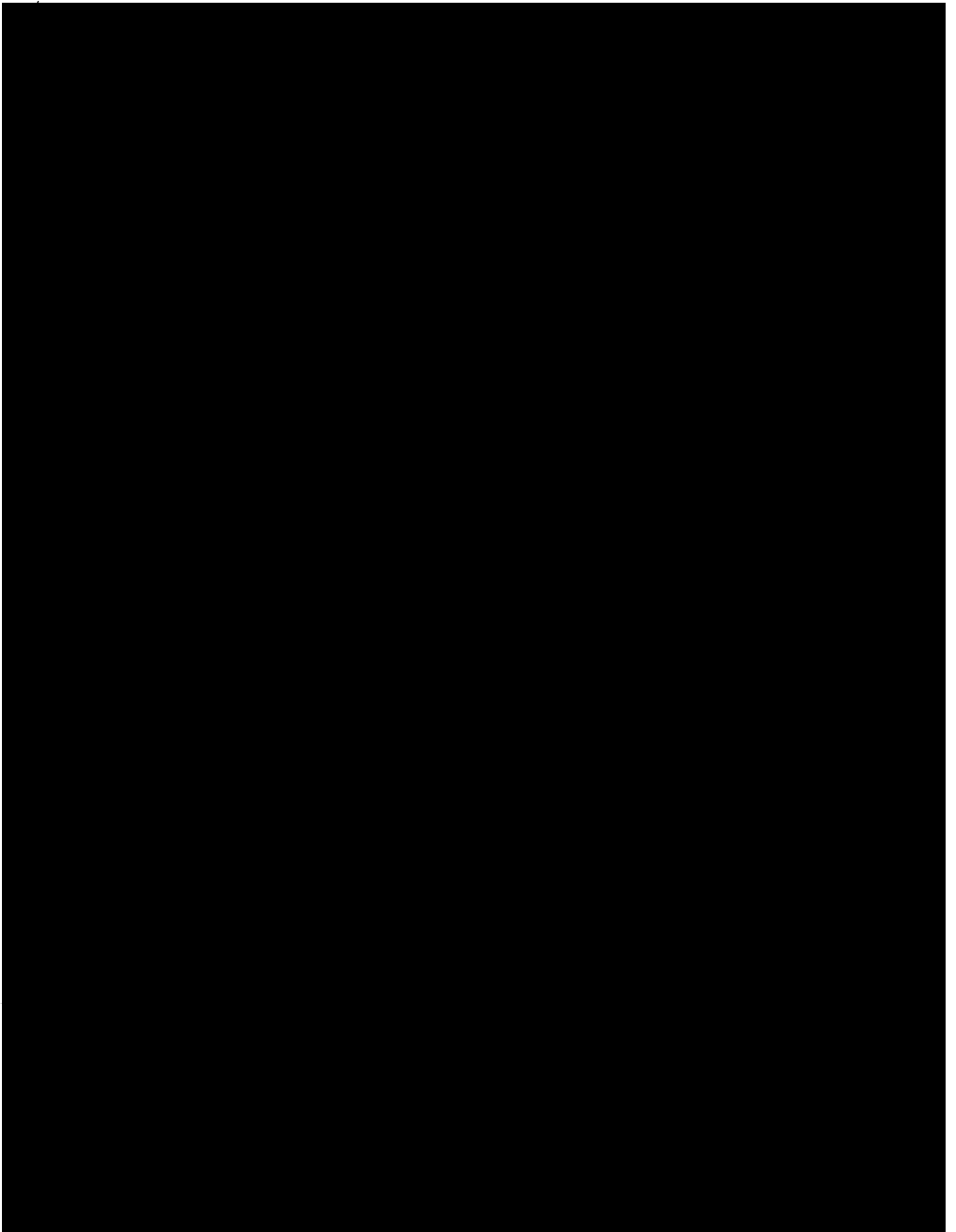


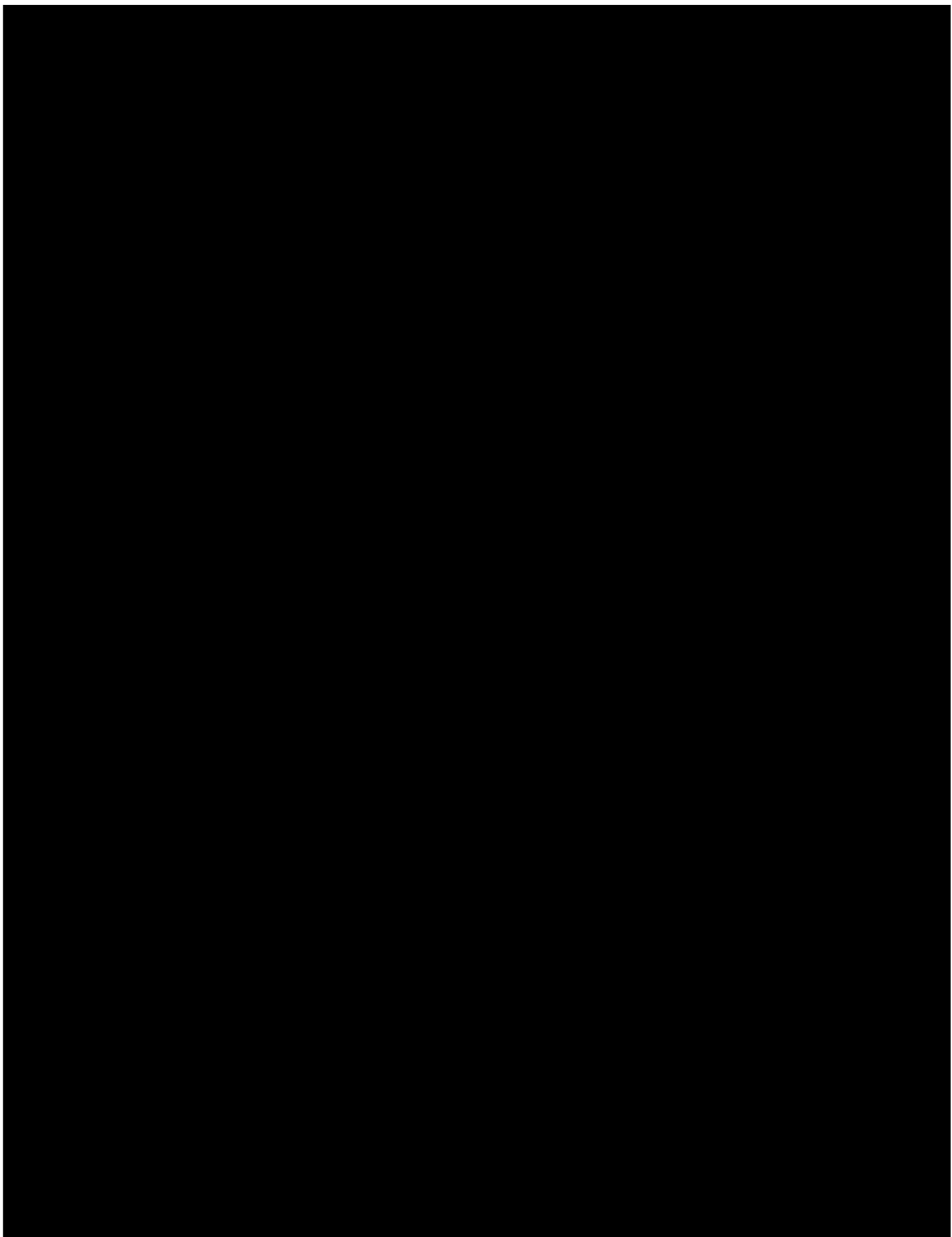


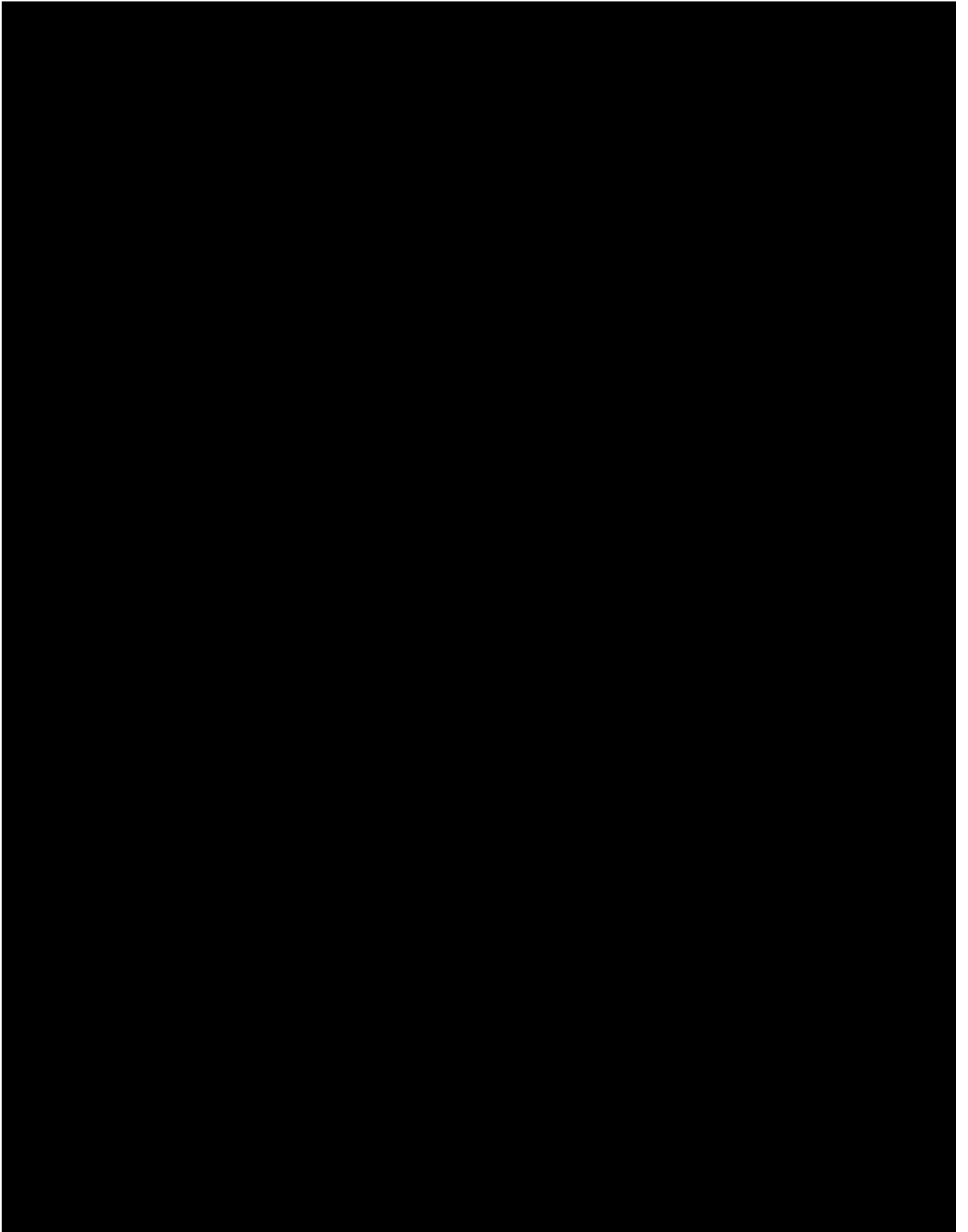


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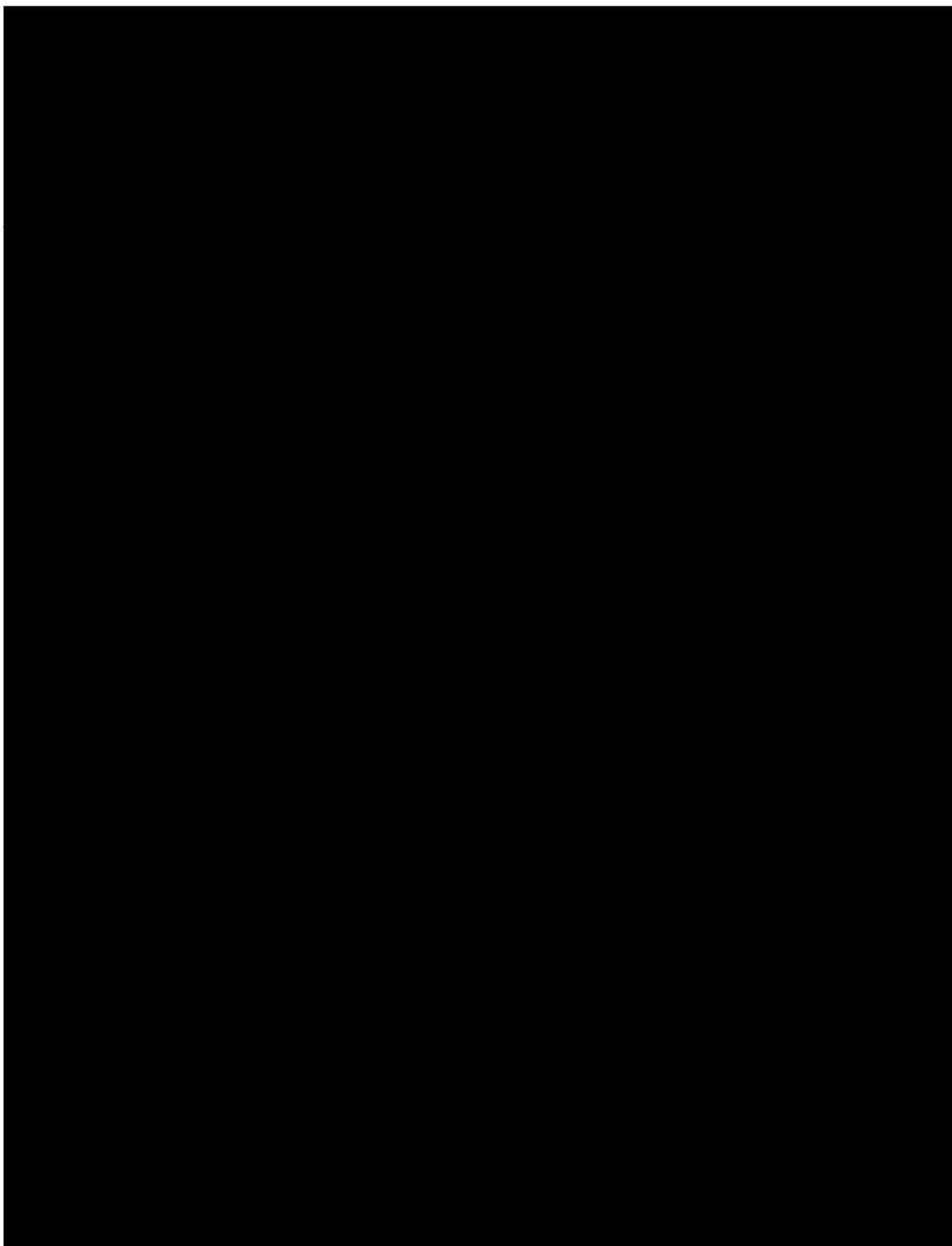


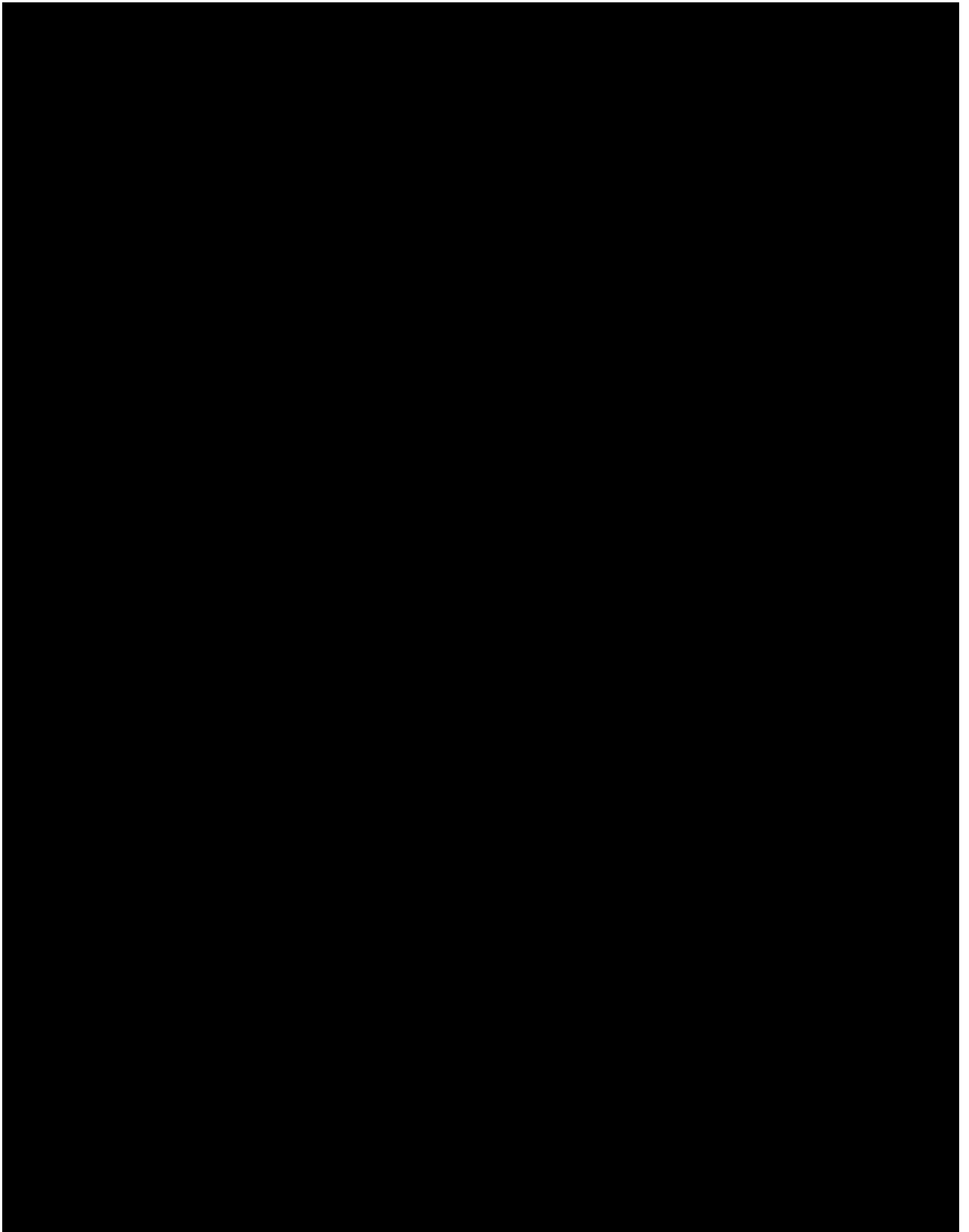


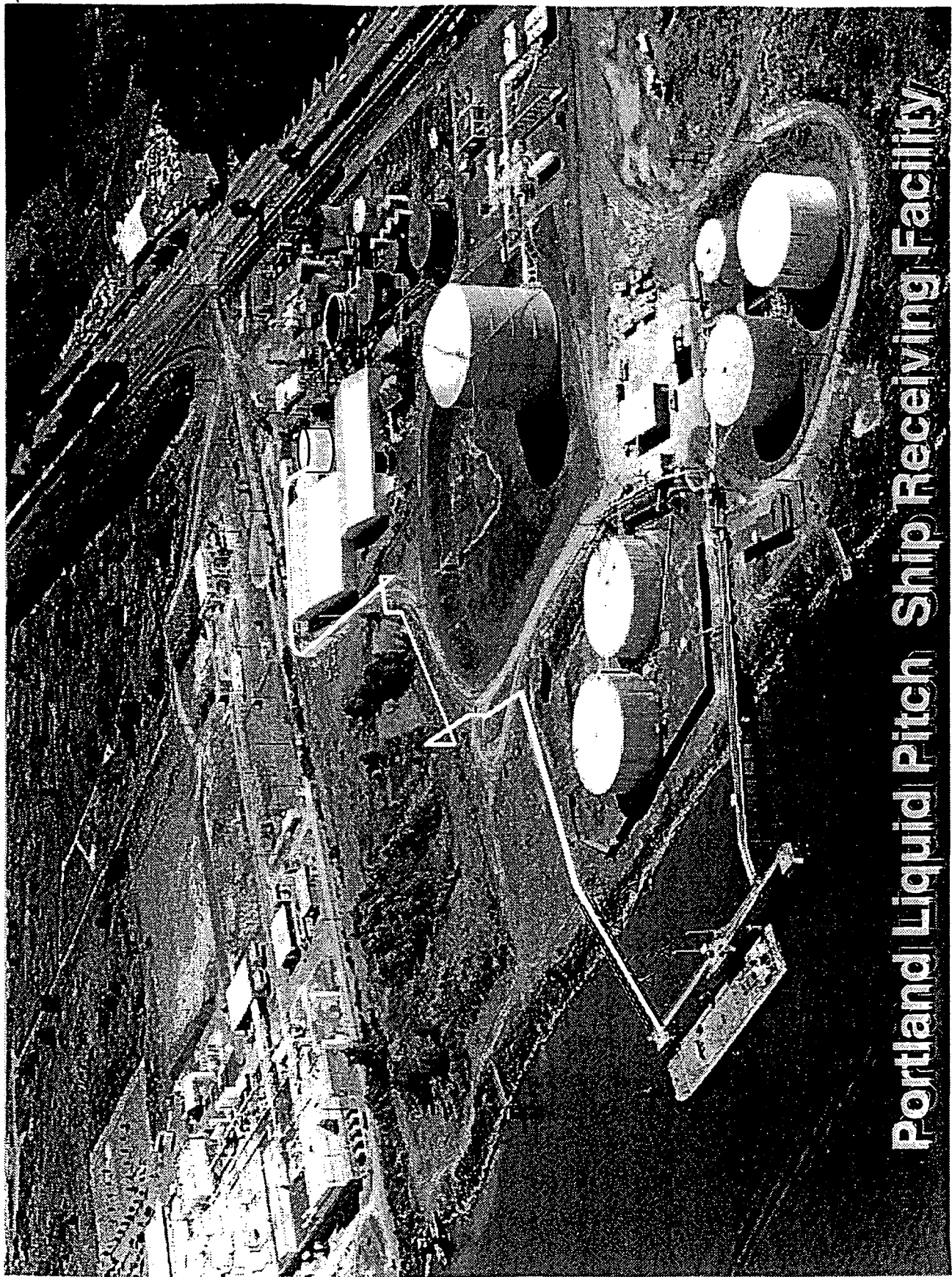


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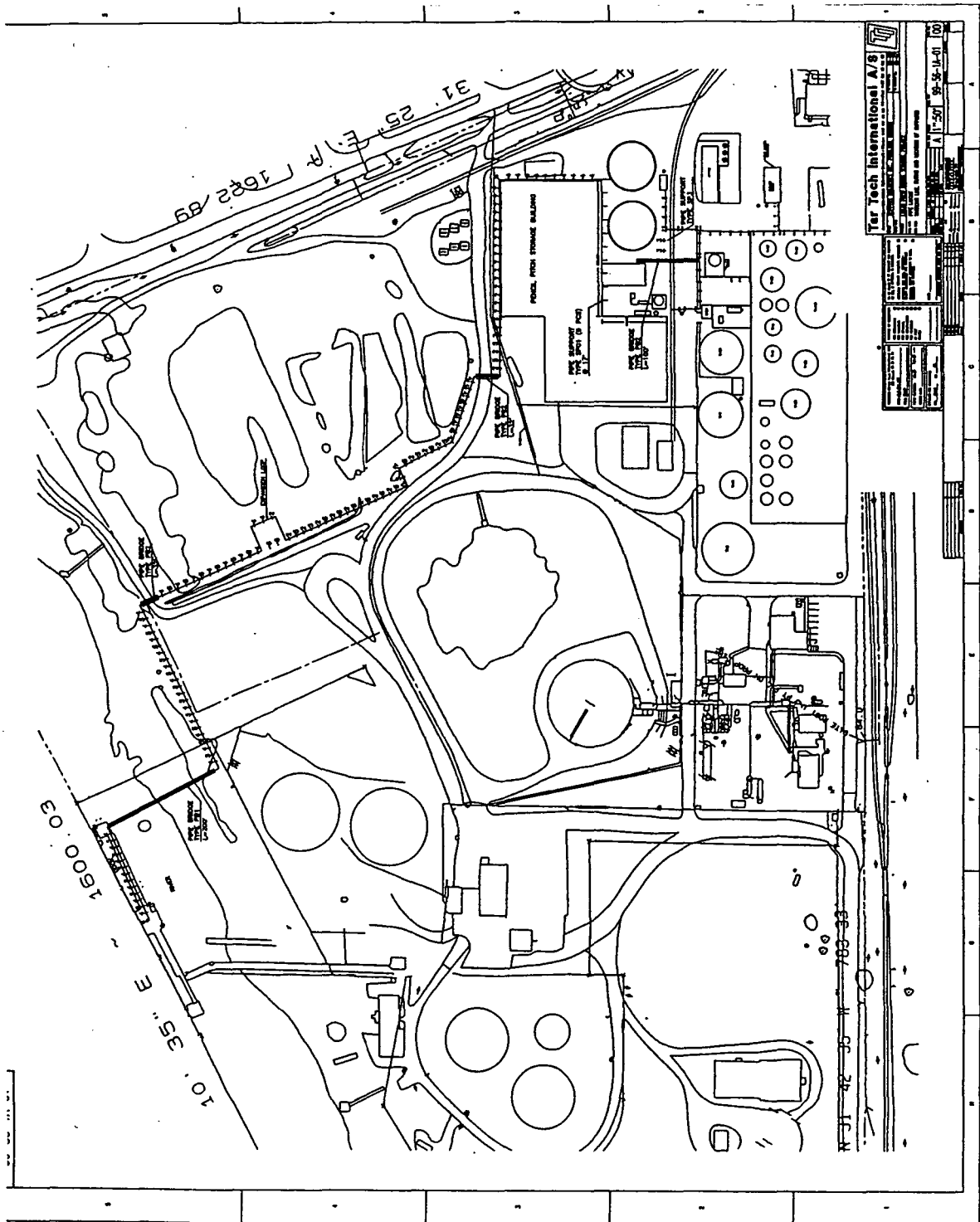


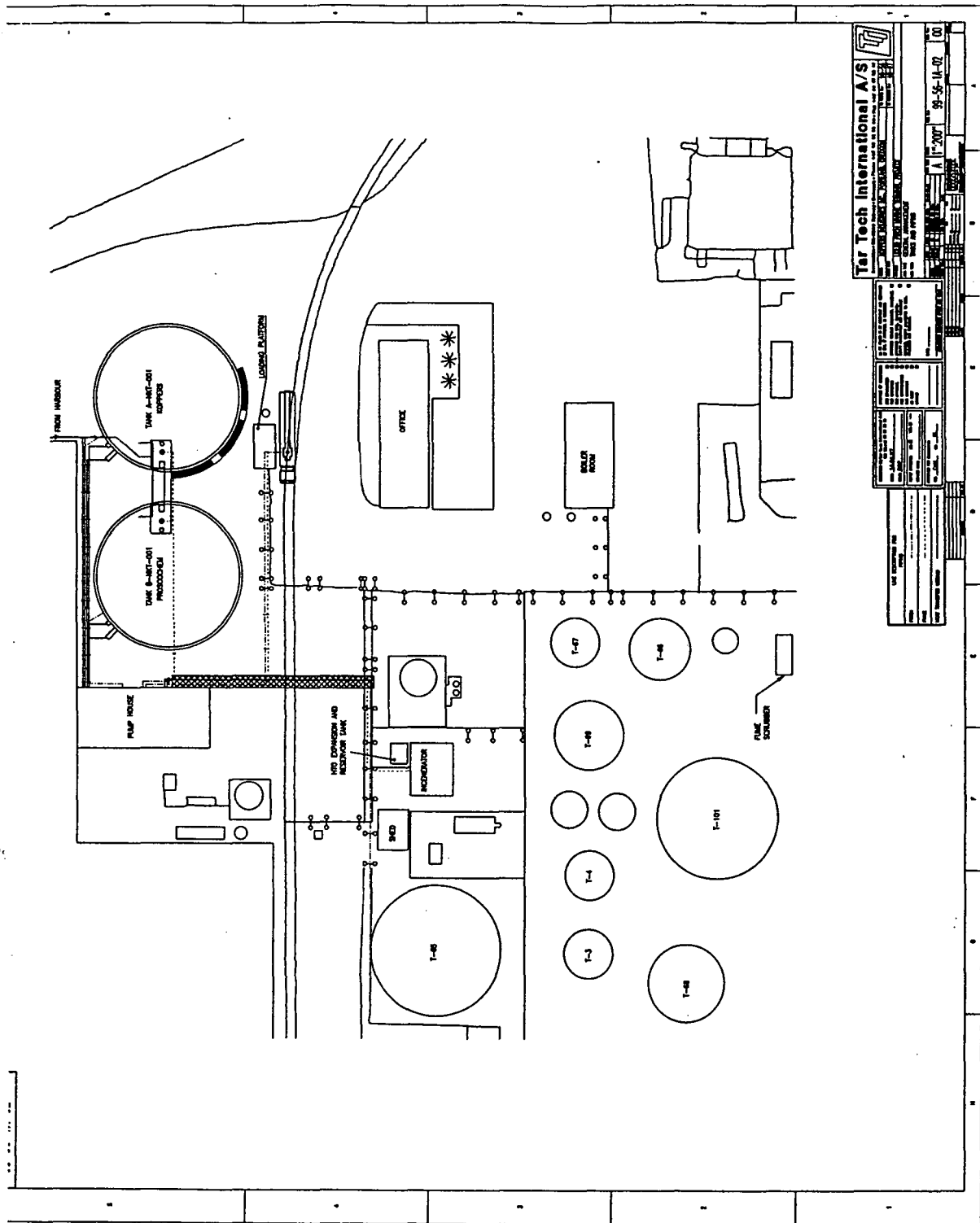






Portland Liquid Pitch Ship Receiving Facility

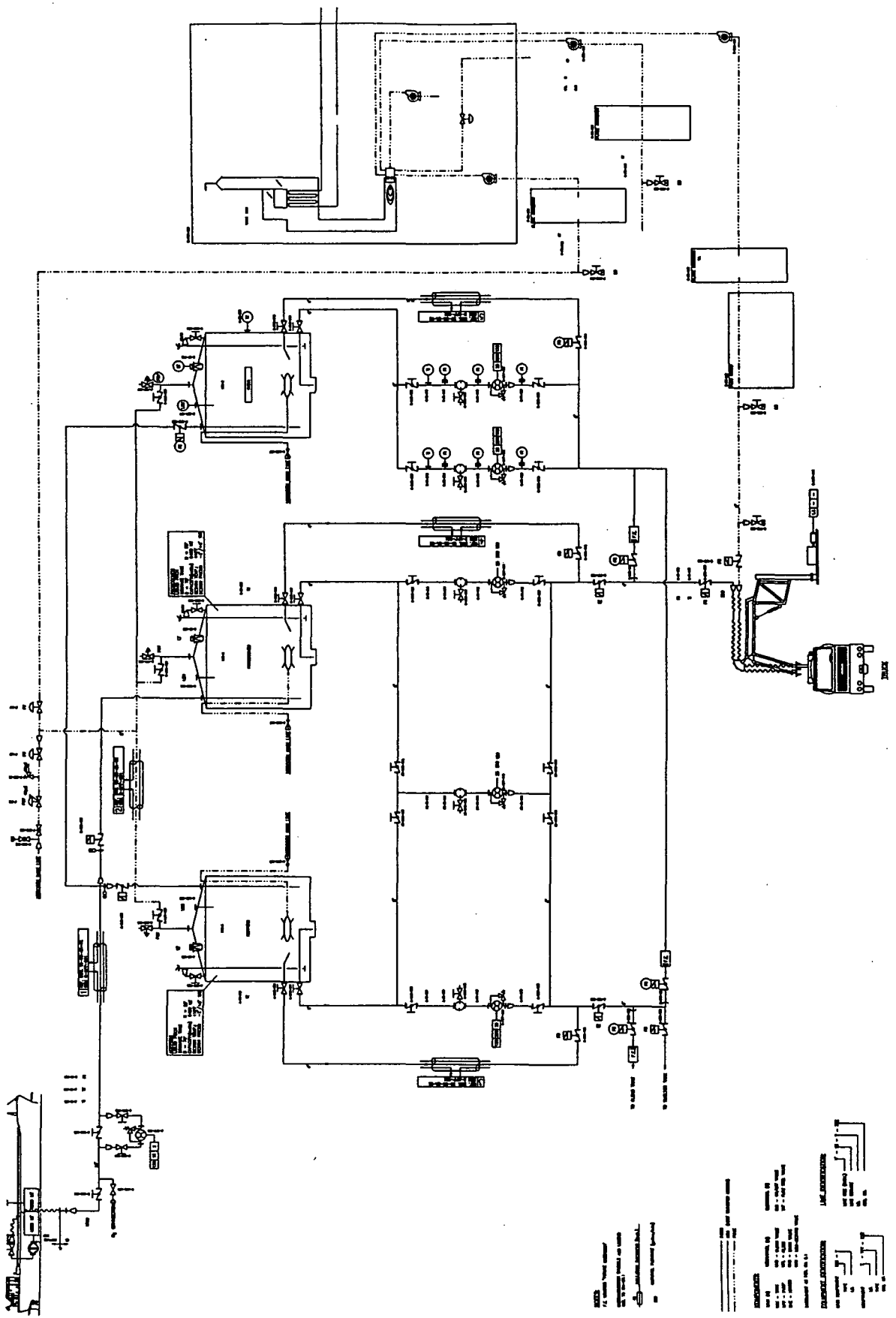




**Tar Tech International A/S**

PROJECT: WATER TREATMENT PLANT  
 DRAWING NO.: T-101-102  
 DATE: 95-06-14-97  
 SCALE: 1:100  
 SHEET NO.: 01

DESIGNED BY	DATE
CHECKED BY	DATE
APPROVED BY	DATE



**PACIFIC NORTHERN INC.**

100 West Harrison - Suite 420 North Tower - Seattle, WA 98119  
Telephone 206 / 282-4421 - FAX 206 / 282-6574

August 25, 1999

VIA FAX

~~Mr. Amos Kameron~~  
Koppers Industries Inc.

Dear Amos:

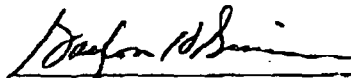
As you may be aware, Pacific Northern is concluding a sale of assets related to its marine fuels and industrial fuels businesses in the Northwest U.S. to Fuel and Marine Marketing, LLC, a Texaco and Chevron joint venture company.

In conjunction with that sale, we are seeking your consent to assign the agreement we now have with your firm to Fuel and Marine Marketing, LLC effective upon the closing of our transaction, expected to occur within the next few weeks. To assist you, the contract particulars to which we refer are as follows:

**Pipeline Lease dated May 22, 1980**

Fuel and Marine Marketing, LLC will assume any and all liabilities and obligations of Pacific Northern under the Pipeline Lease dated May 22, 1980 arising after the closing of the transaction between Pacific Northern and Fuel and Marine Marketing, LLC. This consent is not a release, waiver or estoppel with respect to any rights Koppers Industries, Inc. may have against Pacific Northern under said Pipeline Lease.

To expedite this matter, we would greatly appreciate your concurrence as shown by signature, to be returned by FAX and mail as soon as possible. If there are questions, please contact us by telephone at 206-282-4421. Thank you for your assistance.



Gaylon H. Simmons, President  
Pacific Northern, Inc.



Allan P. Sullivan, Manager, Pacific NW  
Fuel and Marine Marketing, LLC

Consent to Assign:



Amos Kameron  
Koppers Industries Inc.

Post-It® Fax Note 7671		Date 8/3/99	# of pages 1
To J. Kifer	From Amos		
Co./Dept.	Co.		
Phone #	Phone #		
Fax #	Fax #		

## PACIFIC NORTHERN INC.

100 West Harrison • Suite 420 North Tower • Seattle, WA 98119  
Telephone 206 / 282-4421 • FAX 206 / 282-6574

August 3, 1999

Mr. Amos Kamerer  
Koppers Industries Inc.

Dear Amos:

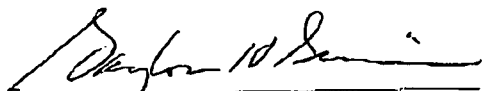
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In conjunction with that sale, we are seeking your consent to assign the agreement we now have with your firm to Fuel and Marine Marketing, LLC effective upon the closing of our transaction, expected to be in August, 1999. To assist you, the contract particulars to which we refer are as follows:


Pipeline Lease dated May 22, 1980

Effective upon closing of the transaction, Pacific Northern shall have no further obligations on the above agreement. FAMM will assume those obligations following closing.

To expedite this matter, we would greatly appreciate your concurrence as shown by signature, to be returned by FAX as soon as possible. If there are questions, please contact us by telephone at 206-282-4421. Thank you for your assistance.



Gaylon H. Simmons, President  
Pacific Northern, Inc.



Allan P. Sullivan, Manager, Pacific NW  
Fuel and Marine Marketing, LLC

Consent to Assign:

Amos Kamerer  
Koppers Industries Inc.



## PACIFIC NORTHERN INC.

100 West Harrison - Suite 420 North Tower - Seattle, WA 98119  
Telephone 206 / 282-4421 - FAX 206 / 282-6574

August 25, 1999

VIA FAX

Mr. Amos Kameroner  
Koppers Industries Inc.

Dear Amos:

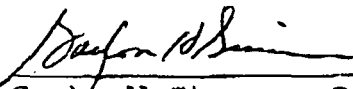
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In conjunction with that sale, we are seeking your consent to assign the agreement we now have with your firm to Fuel and Marine Marketing, LLC effective upon the closing of our transaction, expected to occur within the next few weeks. To assist you, the contract particulars to which we refer are as follows:

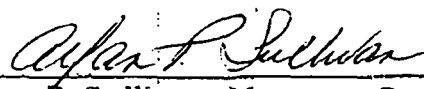
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To expedite this matter, we would greatly appreciate your concurrence as shown by signature, to be returned by FAX and mail as soon as possible. If there are questions, please contact us by telephone at 206-282-4421. Thank you for your assistance.

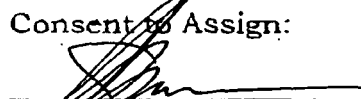


Gaylon H. Simmons, President  
Pacific Northern, Inc.



Allan P. Sullivan, Manager, Pacific NW  
Fuel and Marine Marketing, LLC

Consent to Assign:

  
Amos Kameroner  
Koppers Industries Inc.

*Pacific Northern Industries, Inc.*

Date: May 22, 1980

Henry Rossi  
Mr. Paul W. Guth, Superintendent  
Koppers Company, Inc.  
7540 N. W. Saint Helens Road  
Portland, Oregon 97229

563-286-3681

Dear Mr. Guth:

This letter will confirm our agreement to use certain pipelines, pumps and steam line more fully described below at Koppers Company's Portland, Oregon, plant at a monthly rental of \$400, payable monthly in advance to Koppers Portland plant office. This license shall run from month to month effective May 1, 1980, and is terminable by either party at any time on 30 days' prior written notice to the other.

The equipment to be used by Pacific Northern Oil hereunder can be divided into two components as follows:

1. An oil pipeline of 8" diameter running from the Northwest Natural Gas dock to Pacific Northern Oil's leased tank No. 5 together with all pumps and appurtenances.
2. A 3" insulated steam line running from Pacific Northern Oil's leased tanks to a rail siding utilized by Koppers Company and Pacific Northern Oil together with an oil pipeline and appurtenant structures and fixtures. Included in this license is permission to use the rail siding mentioned above.

The aforesaid lines are located at Koppers property line on the north side of the Terminal. The lines enter a concrete viaduct and are covered with concrete slab covers. These two lines next appear aboveground near tank No. 5 and then continue to the dock walkway.

Pacific Northern Oil agrees to maintain all facilities licensed hereunder.

Pacific Northern Oil assumes all responsibility and shall be strictly liable for all occurrences whatsoever on or about the licensed premises attributable to Pacific Northern's use of the same.

Pacific Northern Oil shall defend, indemnify and hold harmless Koppers from all losses, claims, liabilities, expenses and costs, including attorneys' fees, arising from damages to property or injury to persons (including death) occurring in connection with Pacific Northern Oil's use of the licensed premises, and Pacific Northern Oil shall defend, indemnify and hold harmless Koppers from all such losses, claims, liabilities, expenses and costs including

Page 2

attorneys' fees, whether or not caused by Koppers sole negligence.

Pacific Northern Oil is in the process of building a new oil pipeline from the dock facilities to its tanks which will replace Item 1 of this license. This work is scheduled to be completed during the summer of 1980. When said new pipeline is completed, Pacific Northern Oil will no longer use Item 1 above and will give Koppers 30 days' prior written notice of its intention to eliminate Item 1 from this license. At such time as said new pipeline is completed, Pacific Northern Oil will, to the extent Koppers desires to make it available, continue to use the second above-described line and facilities on a monthly basis for those months in which it uses the rail siding and steam line all of which arrangements are subject to cancellation as aforesaid. Koppers and Pacific Northern Oil will renegotiate a rental rate at that time for continued use of the second above-described facility.

If this meets with Koppers approval, will you kindly so indicate by signing and returning to us the attached copy of this letter.

Lawrence L. Nagel  
FOR KOPPERS COMPANY, INC.


Wale J. Duggan  
FOR PACIFIC NORTHERN OIL

To Amos  
Date 8-23-99 Time 3:04 ☐ AM ☒ PM

WHILE YOU WERE OUT  
M Chris Brodman  
of Pittsburgh

Phone Numbers  
Office 412-918-1172 ☒ Telephoned  
Area Code 412 Number 918-1172 Ext. 1199 ☒ Please call  
Voicemail 1199 Fax ☐ Returned your call  
FAX ☐ Called to see you  
Pager ☐ Wants to see you  
Mobile ☐ Will call again  
e-mail ☐ URGENT

Message:  
Thinks he has the matter squared  
away that you & he have been  
working on, but needs to discuss  
getting your signature for some  
things. Fax signed copy  
mon. 8/23/99 Carter

 ☐ Personal use only  
UNRECORDED MAILBOX Operator Reorder  
#23-700

**KOPPERS  
INDUSTRIES**

FAX TRANSMITTAL

7540 N.W. Saint Helens Rd.  
Portland, Oregon 97210-3663  
Phone: (503) 286-3681  
Fax: (503) 285-2831  
Web Page: [www.koppers.com](http://www.koppers.com)

TO: Theresa

DATE: 8/27/99

FROM: Amos

TOTAL # OF PAGES: 2

The original will be mailed @ noon today

cc: Chris Bradman

IF THIS TRANSMITTAL IS IN ERROR, PLEASE CALL 503-286-3681 FAX # 503-285-2831

Author: AMOS KAMERER at PITT  
Date: 11/10/98 1:50 PM  
Priority: Normal  
TO: canita@teleport.com at Internet  
Subject: PNO Dock Modifications

*Page # 994-2767*

----- Message Contents -----

Cam,

Here's the info on Pacific Northern Industries Fuels, Inc.  
100 West Harrison  
Suite # 420, North Tower  
Seattle, Wa. 98119  
Mr. George Markwood, V. P. Operations

*# 206-282-4421*

Please also send a copy to Sandra K. Hart, Manager  
Risk Environment and land  
Northwest Natural  
220 N. W. 2nd. Ave.  
Portland, Or. 97209

Thanks,

Amos

*11/10/98 - George - LYMM*

- Cam sending drawing package*
- Have reviewed with Tina/Bill*
- Bid Requests going out*
- River work needs to be done 12/1/98 through 1/31/99*
- please call*
- visit*
- Knee Surgery 11/19*

---

Author: AMOS KAMERER at PITT  
Date: 11/11/98 5:37 PM  
Priority: Normal  
TO: Don Evans at PITT  
CC: Kevin Fitzgerald at PITT  
Subject: Pacific Northern Oil

----- Message Contents -----

Don,

I talked to George Markwood, VP Operations, with PNO today and he advises that they are getting close to signing their sale to Texaco, and Texaco is questioning the existing month to month lease between KII and PNO, for the pipe line that they use to pump their rail receipt's, from the rail line to the east of our leased property, to their tank farm. Thus, what is KII's position in this regard? He remembered that we had discussed this previously, but wanted to go over again, what I had previously offered.

I said that because we see no need, or future need, of this line, that we would be willing to sell the line to them for \$1.00, in consideration for our common use of all of their equipment that exists at the dock. Then our lease's would be amended with NW Natural to reflect the PNO owns the line and that PNO and NW Natural would indemnify KII, against any problems that should occur with the use of the line, on our property. And, that an easement for this line, through the KII leased property, is given to PNO.

It is also my intention to say, at the appropriate time, that before we sell them this line, that they sign off on all of our planned dock modifications. I don't see a problem in this area, but it will be nice to be able to use this to our benefit.

Obviously, when we get to the point of the sale, I will need to get you involved, but I wanted to pass this conversation by you, to make sure that you concur with what I said, based on all of our prior conversations on this matter.

Thanks,

Amos



## Kamerer Amos

---

**From:** Kamerer Amos  
**Sent:** Thursday, January 11, 2001 10:19 AM  
**To:** Troy Goodman (E-mail)  
**Subject:** FW: Tar Properties to Amos Kamerer

Troy,

The attached is self explanatory and should just about cover any product residues in the tanks.

The info on the tanks that we discussed and looked at, is as follows:

Tank # 2	1,000,000 gal. cap.	27,000 gals of product residue.
Tank # 12	56,000 "	Unknown
Tank # 1	650,000 "	20,000 gals, this is the one that has dirt & other debris, mixed with product residue.
Tank # 99	200,000 "	3,600 gals on product residue and 13,800 gals of water

Sorry about tomorrow. Let me know if you need anything else on the tanks.

Amos

-----Original Message-----

**From:** Saver Bill  
**Sent:** Thursday, January 11, 2001 6:52 AM  
**To:** Kamerer Amos; Wombles Bob  
**Cc:** Sickels Kathy; Saver Bill  
**Subject:** RE: Tar Properties to Amos Kamerer

Amos,

Attached is a Table of Properties that you requested. This information is from a published source 'Introduction to Carbon Technologies' editor by Harry Marsh.

The only property not given is the specific gravity of Coal Tar, which has a range of 1.18 - 1.25

Good Luck in your meeting.

Bill Saver



Approximate Composition of a 110 °C SP Pitch and Parent Coal Tar.

Component, area %	Pitch	Tar
Indane	Trace	0.29
Indene	Trace	0.31
Naphthalene	0.05	11.90
Thionaphthalene	0.02	0.39
Quinoline	Trace	0.27
2-Methyl naphthalene	0.02	1.28
Methylnaphthalenes	Trace	0.22
1 - Methylnaphthalene	0.01	0.64
Biphenyl	Trace	0.36
1- + 2-Ethyl naphthalene	0.01	0.13
2,6- and 2,7 Dimethylnaphthalene (DMN)	0.01	0.18
1,3- + 1,6- + 1,7-DMN	0.01	0.26
1,4- + 1,5- + 2,3-DMN	Trace	0.07
1,2- DMN + Acenaphthylene	0.01	0.06
Acenaphthene	0.26	1.91.
Dibenzofuran	0.05	1.27
Fluorene	0.11	1.68
Methyldibenzofurans	0.08	0.85
Methylfluorenes	0.05	0.24
Dibenzothiophene	0.05	0.40
Phenanthrene	0.86	5.70
Anthracene	0.31	2.04
Benzoquinolines	0.05	0.32
Carbazole	0.15	0.72
3- Methylphenanthrene	0.05	0.23
2- Methylphenanthrene	0.07	0.31
Methylphenanthrenes	0.27	1.02
2-Phenylnaphthalene	0.06	0.25
Fluoranthene	1.50	3.67
Pyrene	1.39	2.78
Benzofluorenes + Methylfluorenes	0.85	1.49
Methylpyrenes	0.90	1.46
3,4- Benzophenanthrene	0.15	0.17
Benzo(ghi)fluoranthene	0.27	0.3
1,2-Benanthracene	1.33	1.30
Chrysene	1.61	1.39
Triphenylene	0.55	0.52
Benzo(a)fluoranthene	0.46	0.31
Benzo(e)pyrene	1.19	0.66
Benzo(a)pyrene	1.81	1.04
Perylene	0.46	0.39
Methylbenzopyrenes	1.67	1.24
Indenopyrene	1.01	0.49
Dibenzanthracenes	0.50	0.23
Benzo(ghi)perylene	0.53	0.22
Anthanthrene	0.36	0.14
Total Unidentified (> 125)	3.35	6.02
High boiling pitch compounds	71.66	39.90

#### Typical Coal Tar Pitch

Other Properties:	
Carbon, wt. %	~ 92
Hydrogen, wt. %	~4.5
Sulfur, wt. %	0.6
Nitrogen, wt. %	~1
Oxygen, wt. %	~2
Sodium, ppmw	20- > 500
Potassium, ppmw	2-100
Silicon, ppmw	100- 500
Iron, ppmw	50-500
Calcium, ppmw	10-250
Lead, ppmw	40-500

The above ppmw analyses are for Pitch. Coal Tar would be approximately half of these values.

NOTE: Sulfur is typically 0.6 % in both Coal Tars and Pitches.

**Date:** 11/22/00 10:28 AM  
**Sender:** Amos Kameron  
**To:** s2h@nwnatural.com  
**Priority:** Normal  
**Subject:** Sublease

---

Hi Sandy, I hope that all is well with you.

I have been approached by Pacific Terminal Services, Inc., obviously working with FARM, about the possibility of subleasing one or more of our tanks, that we are currently not using. In looking at the lease, section 12, I'm unclear as to how NWN would feel about such an agreement. Thus, I would appreciate it if you would look at this matter and let me know your thoughts.

I hope that you and yours have a great Thanksgiving Holiday.

Regards,

Amos

# KOPPERS INDUSTRIES

Koppers Industries, Inc.  
436 Seventh Avenue  
Pittsburgh, PA 15219-1800

July 9, 1992

Telephone: (412) 227-2001

Mr. Charles K. Ashbaker  
Water Quality, Northwest Region  
Department of Environmental Quality  
Business Office  
811 S.W. Sixth Avenue  
Portland, OR 97204

## EXPRESS MAIL

Re: NPDES Permit Renewal Application  
Permit No. 100419  
File No. 47430  
Multnomah County

Dear Mr. Ashbaker:

Enclosed are completed application forms and check #3082179 in the amount of Eight Hundred Dollars (\$800.00 - \$50.00 filing fee and \$750.00 processing fee) for the renewal of the NPDES Permit for our Northwest Terminal.

Terminal operations have not changed significantly during the time covered by the current permit. No process wastewater is generated by terminal operations, consequently only non-contaminated storm water and boiler blowdown is discharged. We believe that the current permit limitations provide adequate protection to the environment and achieves a reasonable cost to benefits ratio. We encourage the agency to reissue the existing permit without major modifications.

If you have any questions please contact John Oxford, Plant Manager, at 503-286-3681 or me at 412-227-2883 or write me at the above address.

Sincerely yours,

*W. E. Swearingen*  
William E. Swearingen,  
Manager, Environmental Programs

Enclosures

cc: John A. Oxford, Northwest Terminal

bcc: L. F. Flaherty, K-1750  
J. R. Batchelder, K-1701

Koppers001767

Koppers Industries, Inc. - Pittsburgh, PA 15219-1800

3082179

Spec. Cd.	Vendor No.	Div.	Our Audit No.	Your Invoice No.	Inv. Date Mo. Day	Invoice Amt.	Discount	Net Amt. Payable	Cr.
7	967125006483		48320700008	WS NPDES RENEWAL	0707	800.00	0.00	800.00	

KOPPERS INDUSTRIES, INC.  
PITTSBURGH, PA 15219-1800

62-4  
311

CHECK NO. 3082179

PAY  
EIGHT HUNDRED AND 00/100 ONLY

TO THE ORDER OF  
OREGON ST DEPT ENVIRON QUALITY  
ATTN: BUSINESS OFFICE  
811 S W SIXTH AVE  
PORTLAND OR 97204

DATE JULY 09 1992

PAY THIS AMOUNT  
1800.00

Payable through Mellon Bank (DE) N.A., Wilmington, DE 19899  
Mellon Bank (East) N.A., Philadelphia, PA 19102

*John Lyant*  
AUTHORIZED SIGNATURE

*DE*  
AUTHORIZED SIGNATURE

⑈3082179⑈ ⑆031100047⑆ 2⑈924 926⑈

Koppers001768

STORMWATER

BOILER  
BLOWDOWN

SUMP

TO  
RECYCLE  
OR  
DISPOSAL

STORMWATER  
SURGE TANKS  
45,000 GAL  
EACH

WW-1

WW-2

WW-3

WW-4

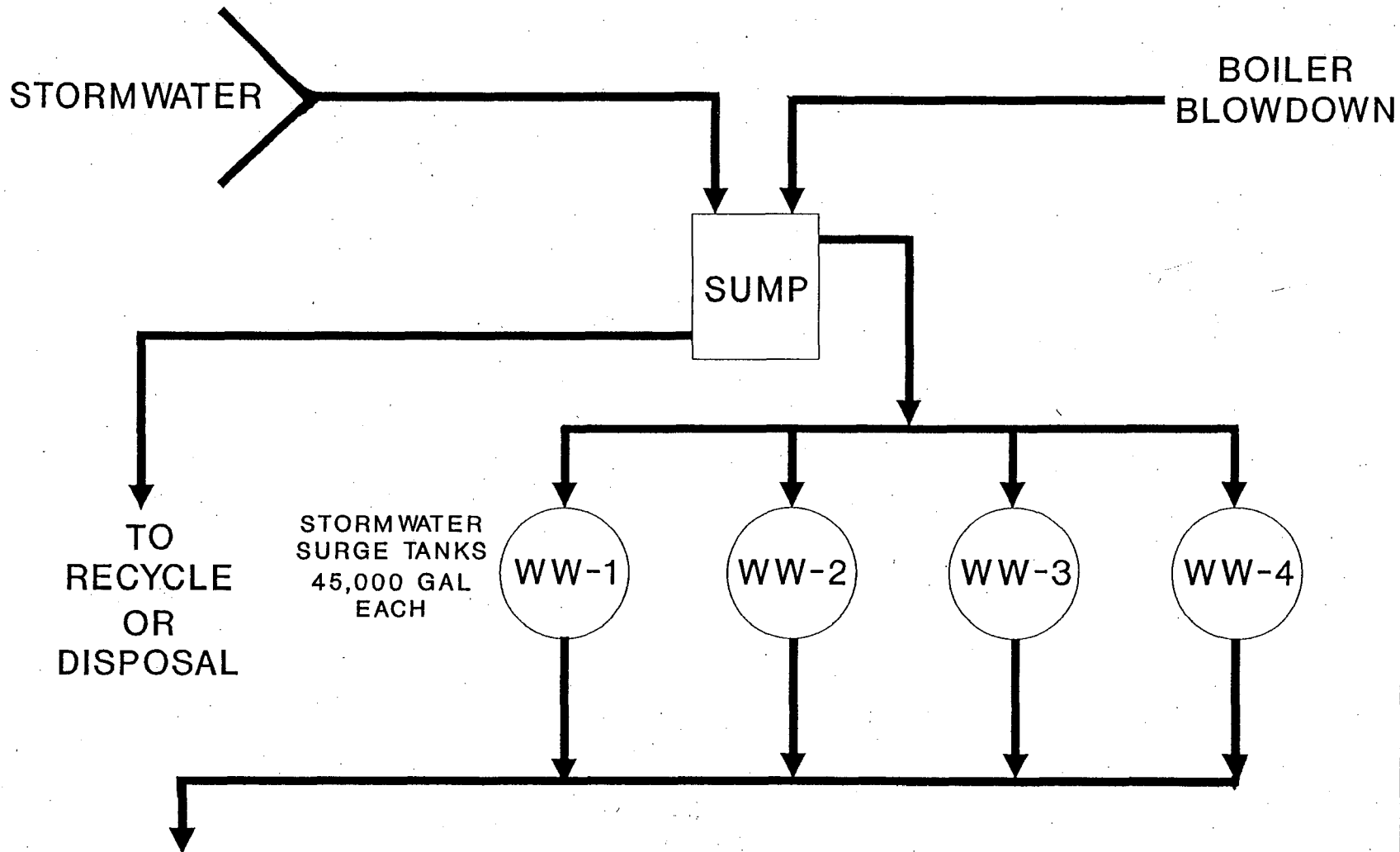
OUTFALL 001  
2700 GPD AVG  
6000 GPD MAX

**KOPPERS**  
**INDUSTRIES**

Pittsburgh, PA

**WASTE WATER  
FLOW PLAN**

Northwest Terminal  
Portland, OR



**KOPPERS  
INDUSTRIES**

Pittsburgh, PA

**WASTE WATER  
FLOW PLAN**

Northwest Terminal  
Portland, OR

KOPPERS INDUSTRIES, INC  
NORTHWEST TERMINAL

WASTE WATER FLOW DATA FOR NPDES RENEWAL  
SUBMITTED JULY 1992

PARAMETER	FLOW GPD	VOLUME GAL/MO	TEMP DEG F	pH SU	O&G PPM	PHENOLTESTS PPM	DAYS AMT	DAYS AMT
JUNE 91	6000.0	180000.0	59.0	6.5	0.5	0.2	4.0	30.0
JULY NO FLOW								
AUG NO FLOW								
SEPT	3000.0	90000.0	78.0	6.3	0.5	0.1	2.0	30.0
OCT	2903.0	90000.0	58.5	6.2	1.7	0.2	2.0	31.0
NOV	6000.0	180000.0	51.0	6.5	1.4	0.1	4.0	30.0
DEC	2903.0	90000.0	46.0	6.0	0.7	0.2	2.0	31.0
JAN 92	5806.0	180000.0	48.0	6.4	0.7	0.2	4.0	31.0
FEB NO FLOW								
MAR	2903.0	90000.0	53.0	6.5	0.8	0.2	2.0	31.0
APR	3000.0	90000.0	68.0	7.0	0.6	0.1	2.0	30.0
MAY NO FLOW								
TOTAL	32515.0	990000.0	461.5	51.4	6.8	1.2	22.0	244.0
AVERAGE	4057.4	123750.0	57.7	6.4	0.9	0.2	2.8	

TOTAL DAYS DISCHARGING.....244  
TOTAL MONTHS DISCHARGING.....8

NT\_NPDES.WK1



KOPPERS INDUSTRIES, INC  
NORTHWEST TERMINAL

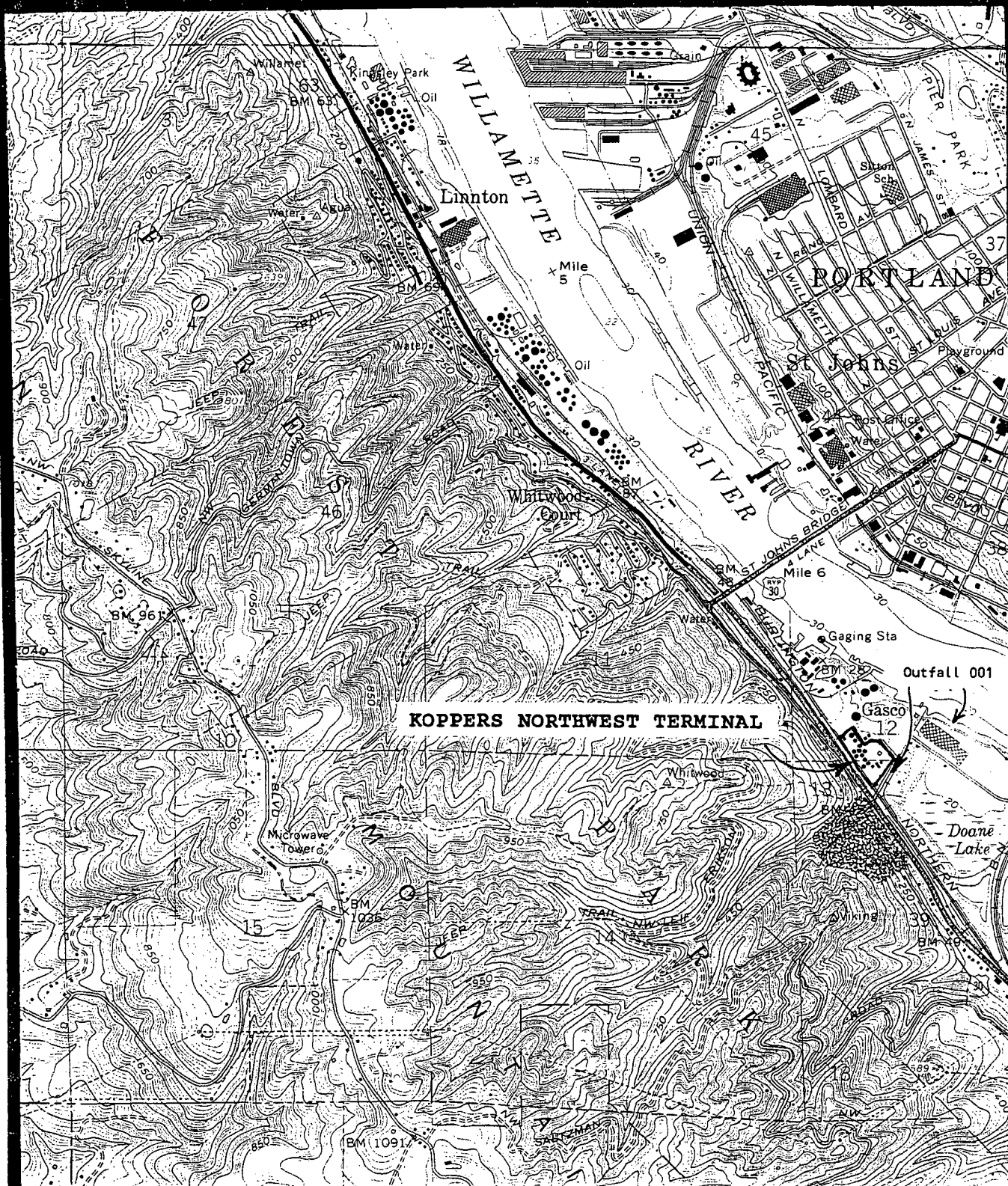
WASTE WATER FLOW DATA FOR NPDES RENEWAL  
SUBMITTED JULY 1992

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NOV	6000.0	180000.0	51.0	6.5	1.4	0.1	4.0	30.0
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FEB NO FLOW								
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AVERAGE	4057.4	123750.0	57.7	6.4	0.9	0.2	2.8	

TOTAL DAYS DISCHARGING.....244  
TOTAL MONTHS DISCHARGING.....8

NT\_NPDES.WK1





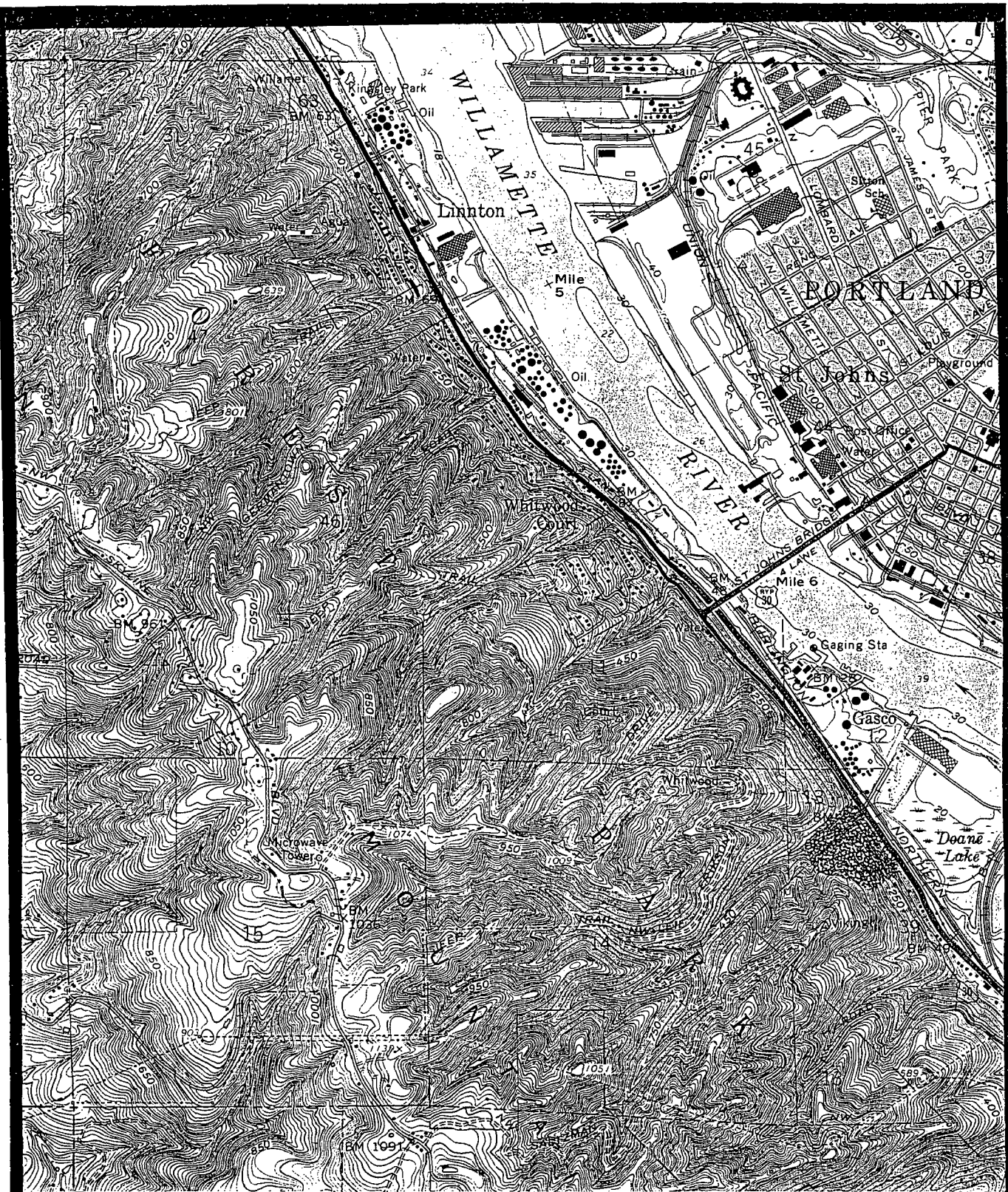
**KOPPERS  
INDUSTRIES**

PITTSBURGH, PA

**NORTHWEST TERMINAL**

LATITUDE: 045D 34M 38S  
LONGITUDE: 122D 45M 32S

USGS MAP  
LINNTON  
QUADRANGLE  
OREGON  
SERIES 7.5 MIN



**KOPPERS  
INDUSTRIES**

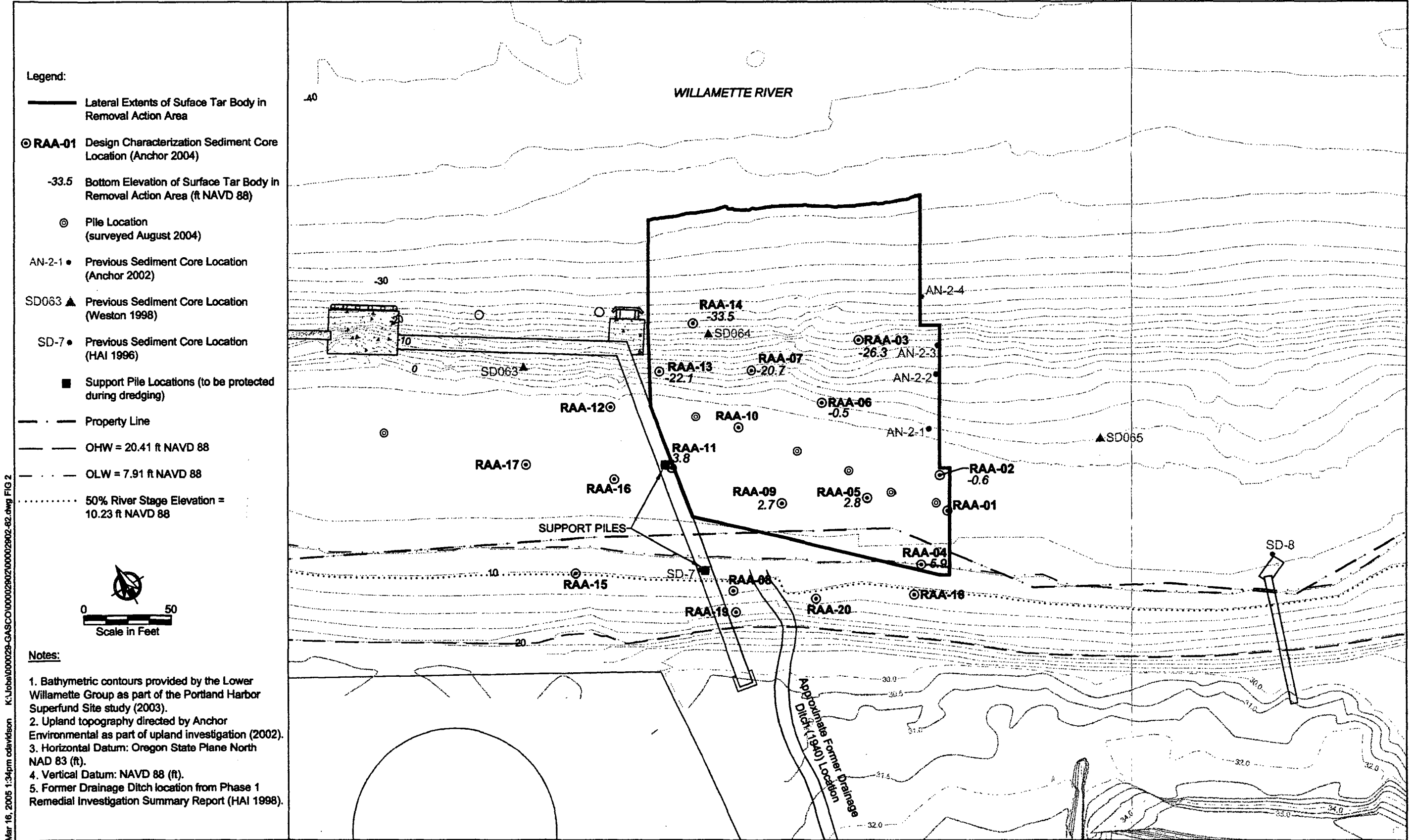
PITTSBURGH, PA

**NORTHWEST TERMINAL**

LATITUDE: 045D 34M 38S  
LONGITUDE: 122D 45M 32S

USGS MAP  
LINNTON  
QUADRANGLE  
OREGON  
SERIES 7.5 MIN



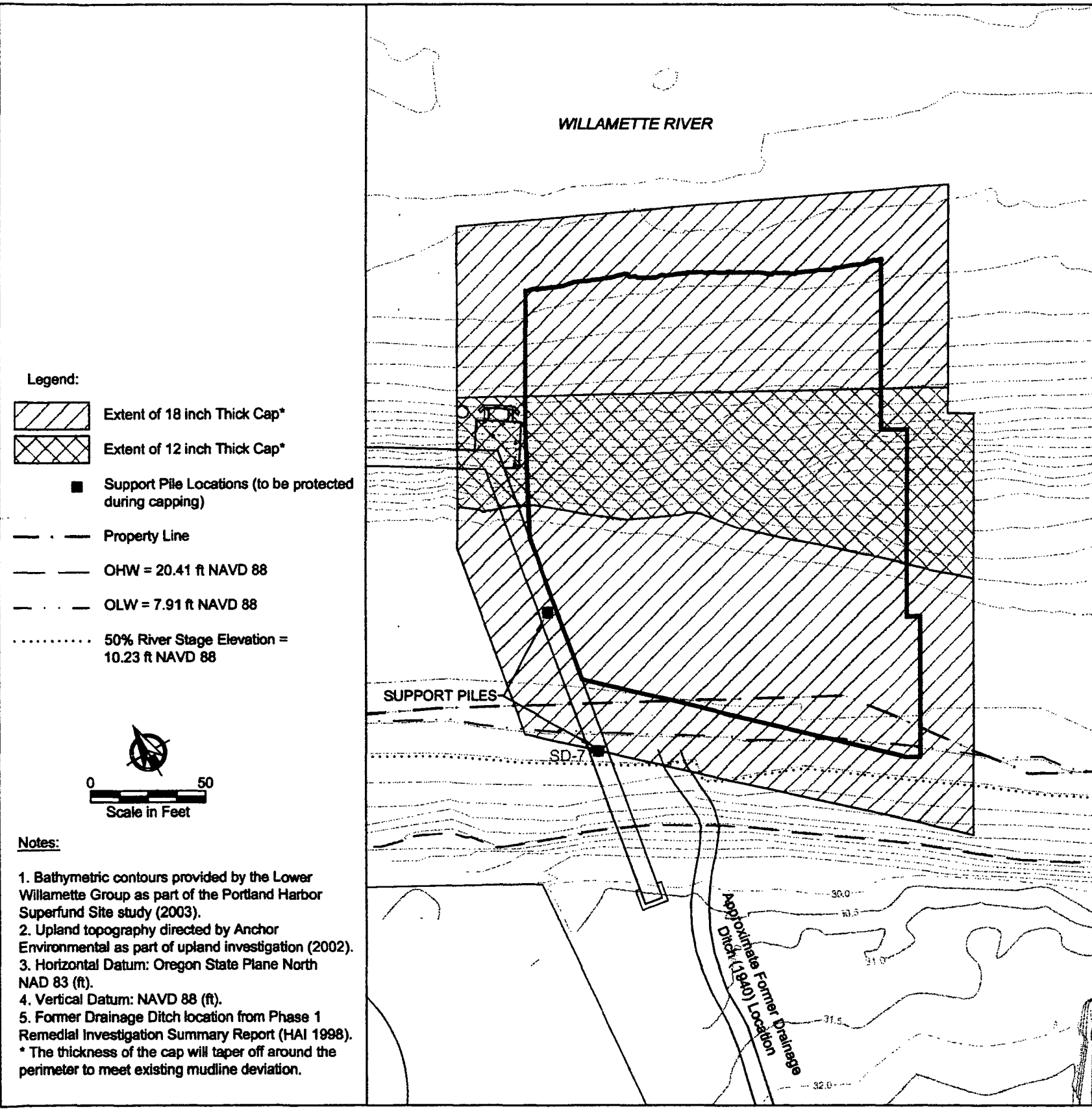


**Figure 2**  
Lateral and Vertical Extents of Surface Tar Body  
NW Natural "Gasco" Site



Koppers001776

K:\Jobs\000029-GASCO\000029\200002902-84.dwg FIG 3  
Apr 19, 2005 4:02pm c:\dwg\dwg



- Legend:
- Extent of 18 inch Thick Cap\*
  - Extent of 12 inch Thick Cap\*
  - Support Pile Locations (to be protected during capping)
  - Property Line
  - OHW = 20.41 ft NAVD 88
  - OLW = 7.91 ft NAVD 88
  - 50% River Stage Elevation = 10.23 ft NAVD 88

- Notes:
1. Bathymetric contours provided by the Lower Willamette Group as part of the Portland Harbor Superfund Site study (2003).
  2. Upland topography directed by Anchor Environmental as part of upland investigation (2002).
  3. Horizontal Datum: Oregon State Plane North NAD 83 (ft).
  4. Vertical Datum: NAVD 88 (ft).
  5. Former Drainage Ditch location from Phase 1 Remedial Investigation Summary Report (HAI 1998).
- \* The thickness of the cap will taper off around the perimeter to meet existing mudline deviation.

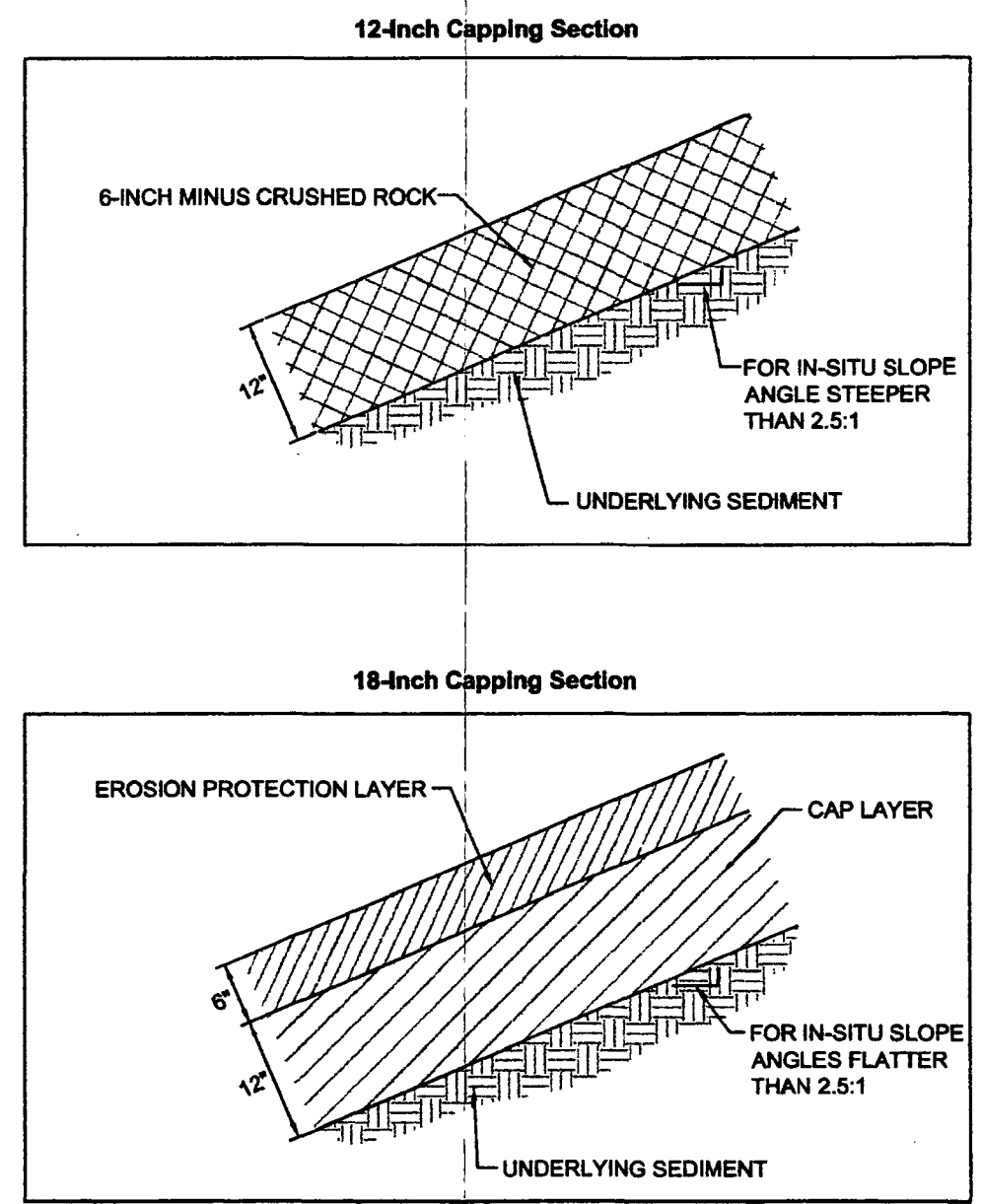


Figure 3  
Alternative A - Capping Plan  
NW Natural "Gasco" Site

Koppers001777

Koppers001778

Mar 17, 2005 12:27pm c:\davidson K:\Jobs\000029-GASCO\00002902\00002902-05.dwg FIG 5

Legend:

**1.5** Dredge Prism and Dredge Elevation

RAA-01 ⊙ Design Characterization Sediment Core Location (Anchor 2004)

-33.5 Bottom Elevation of Surface Tar Body in Removal Action Area (ft NAVD 88)

AN-2-1 ● Previous Sediment Core Location (Anchor 2001)

SD063 ▲ Previous Sediment Core Location (Weston 1998)

SD-7 ● Previous Sediment Core Location (HAI 1996)

⊙ Pile Location (To be removed during dredging)

■ Support Pile Locations (to be protected during dredging)

— · — Property Line

— — — OHW = 20.41 ft NAVD 88

— · — OLW = 7.91 ft NAVD 88

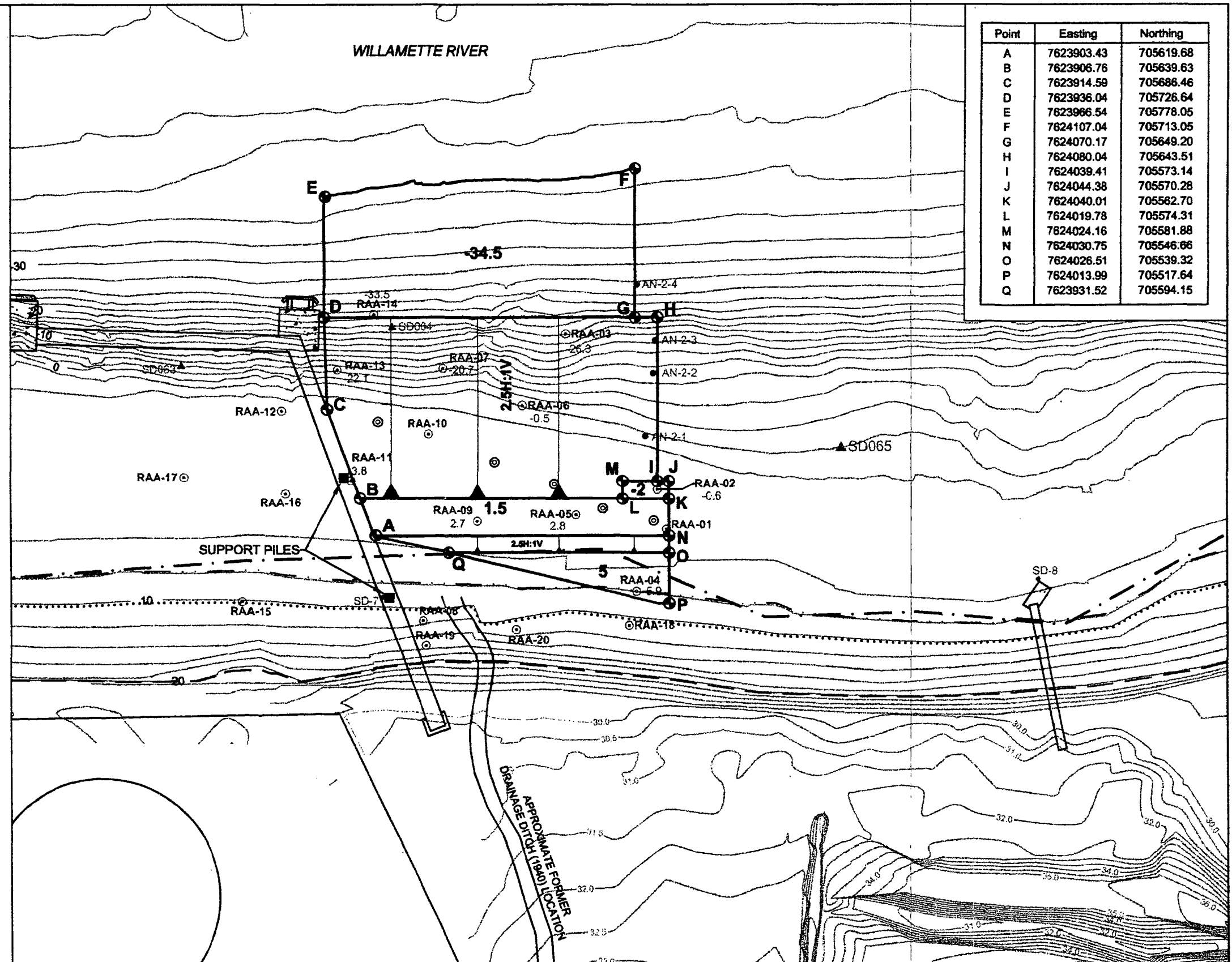
····· 50% River Stage Elevation = 10.23 ft NAVD 88

A⊙ Control Point



Notes:

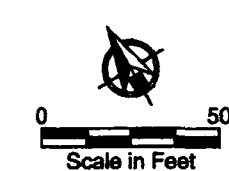
1. Bathymetric contours provided by the Lower Willamette Group as part of the Portland Harbor Superfund Site study (2003).
2. Upland topography directed by Anchor Environmental as part of upland investigation (2002).
3. Horizontal Datum: Oregon State Plane North NAD 83 (ft).
4. Vertical Datum: NAVD 88 (ft).
5. Former Drainage Ditch location from Phase 1 Remedial Investigation Summary Report (HAI 1998).



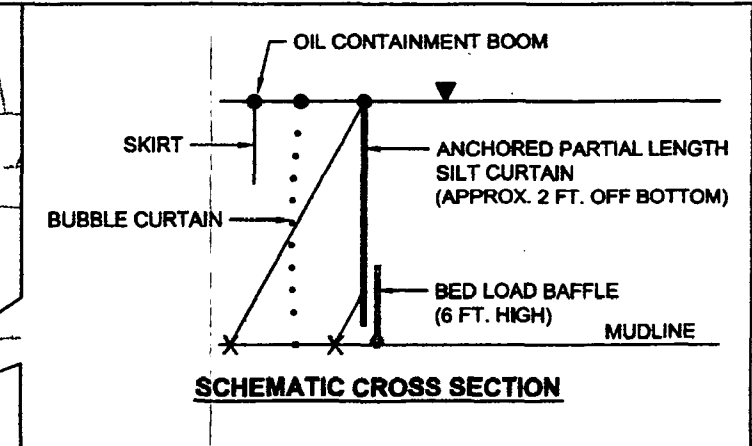
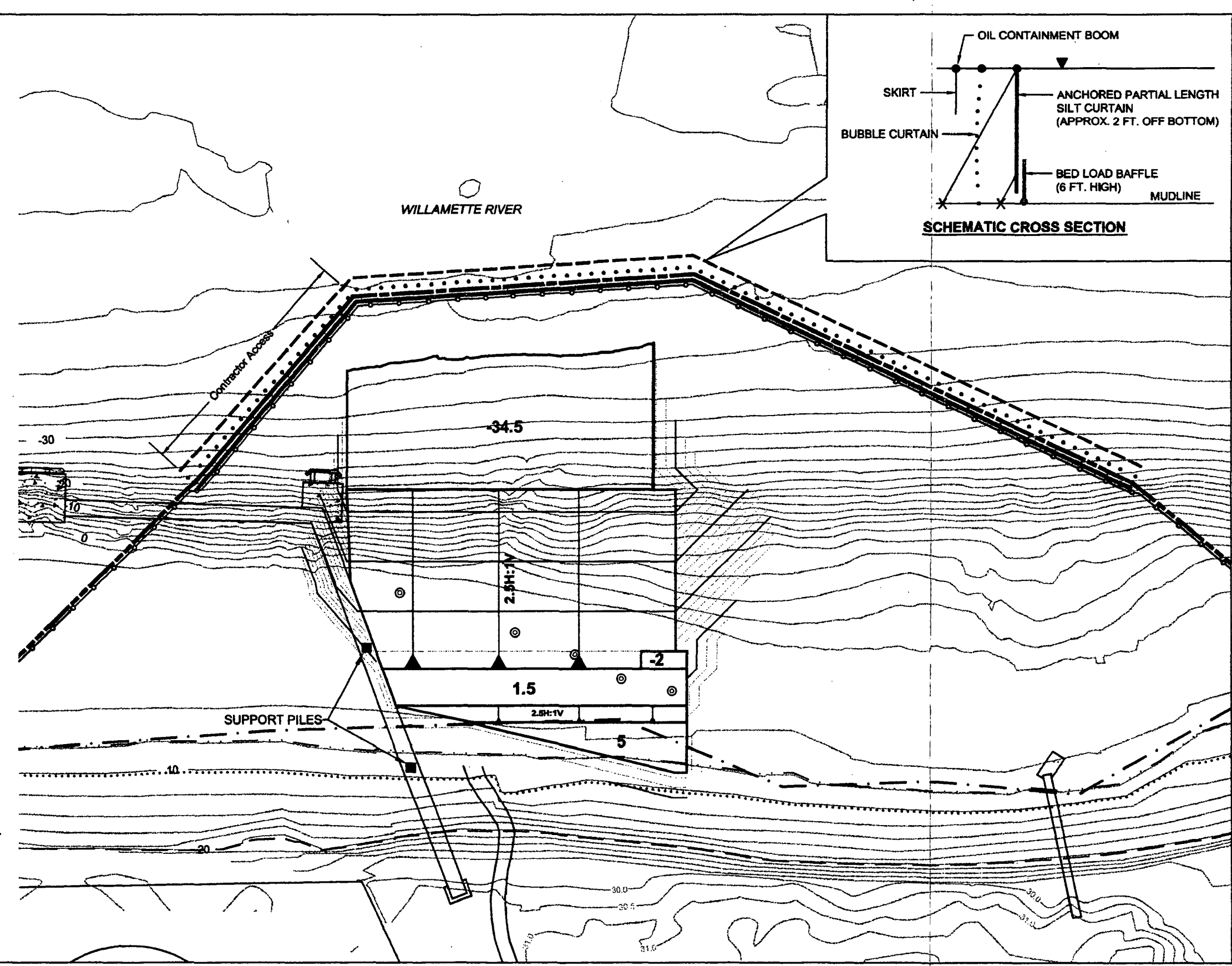
**Figure 4**  
Alternatives B, C, D, and E – Dredge Plan  
NW Natural "Gasco" Site

K:\projects\000029-GASCO\00002902-67.dwg FIG 6  
Apr 19, 2005 3:53pm cdivison

- Legend:
- 1.5** Dredge Prism and Dredge Elevation
- Property Line
  - OHW = 20.41 ft NAVD 88
  - OLW = 7.91 ft NAVD 88
  - 50% River Stage Elevation = 10.23 ft NAVD 88
  - Oil Absorbent Boom (Mobile)
  - Full Length Silt Curtain (Anchored)
  - Oil Containment Boom with Skirt (2 Ft) (Mobile)
  - Partial Length Silt Curtain (Mobile "Door")
  - Partial Length Silt Curtain (Anchored)
  - Bed Load Baffle
  - Bubble Curtain
  - Pile Location (To be removed before dredging)
  - Support Pile Locations (to be protected during dredging)



- Notes:
1. Bathymetric contours provided by the Lower Willamette Group as part of the Portland Harbor Superfund Site study (2003).
  2. Upland topography directed by Anchor Environmental as part of upland investigation (2002)
  3. Horizontal Datum: Oregon State Plane North NAD 83 (ft).
  4. Vertical Datum: NAVD88 (feet).
  5. Former Drainage Ditch location from Phase 1 Remedial Investigation Summary Report, Hahn & Associates, 1998.





DRAFT

Figure 6  
Alternatives B and C - Outer Removal Area Non-Rigid Containment Configuration  
NW Natural "Gasco" Site

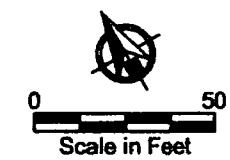
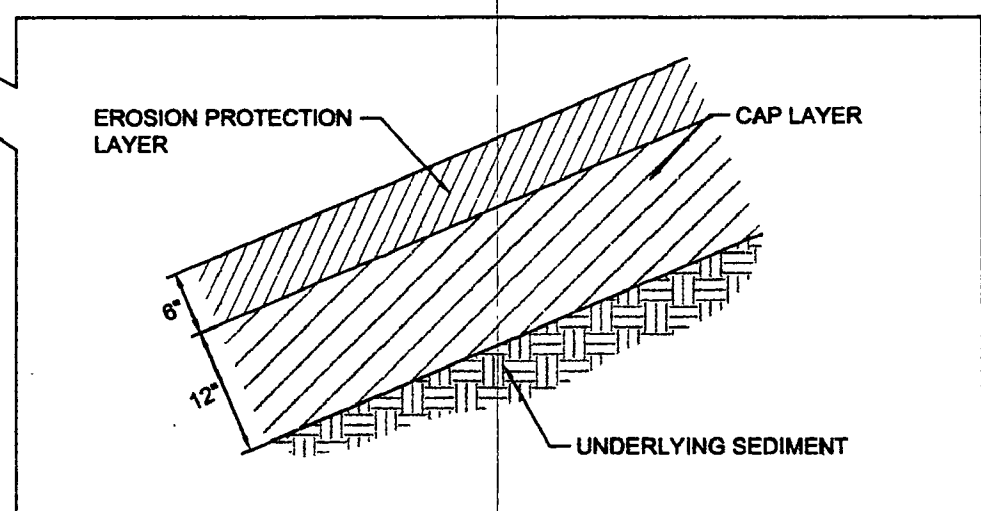
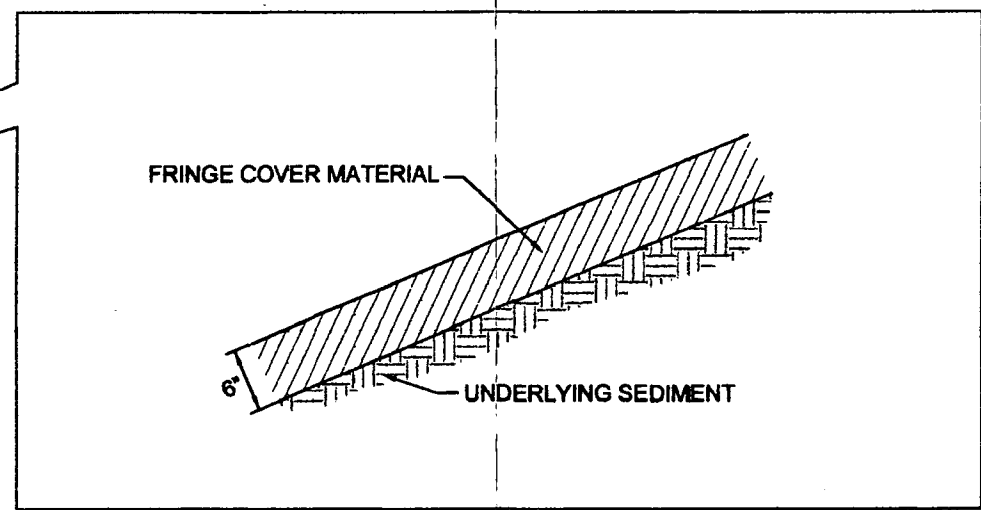
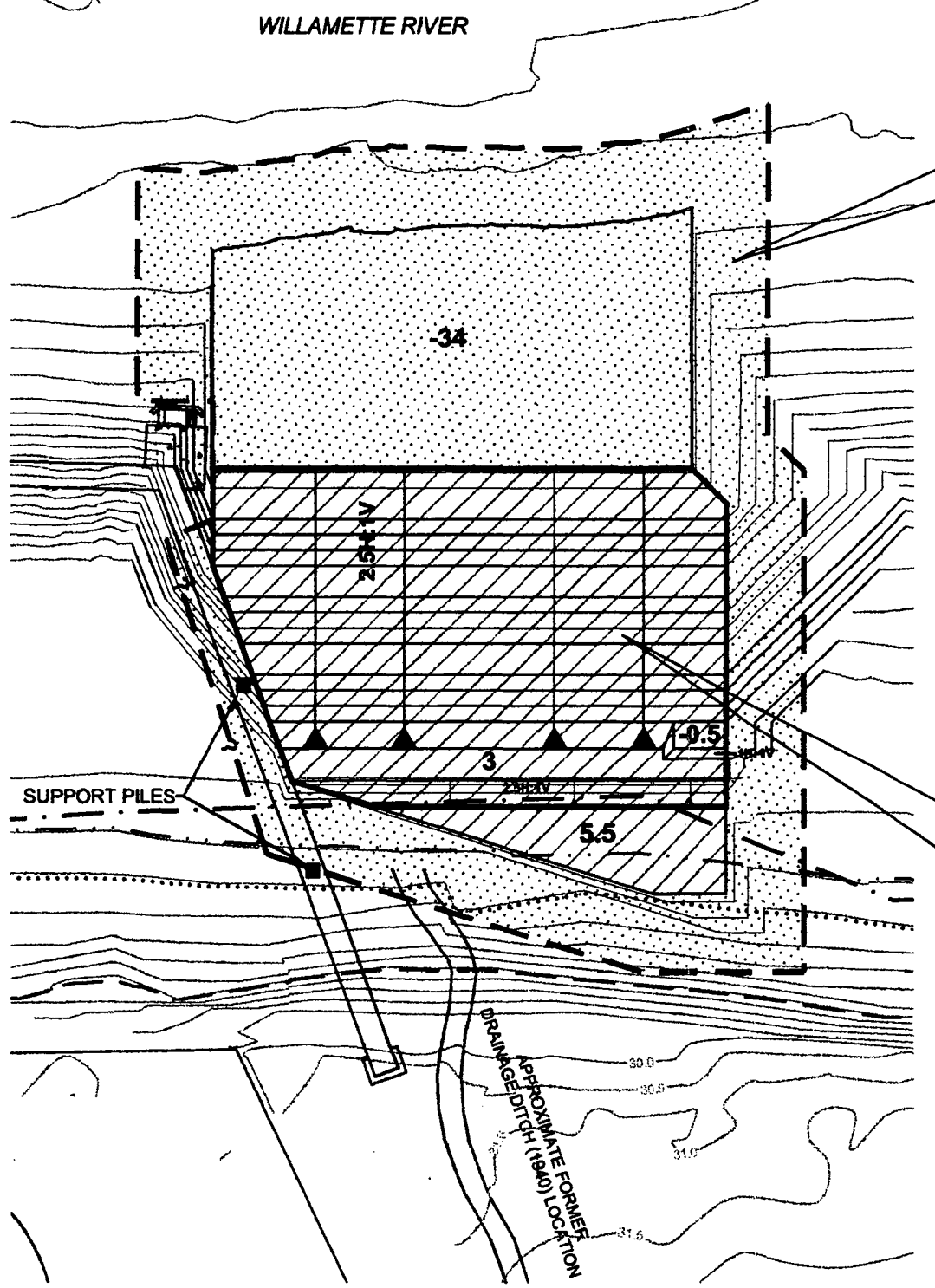


Mar 17, 2006 12:32pm cldavidson K:\uba\000028-GASCO\00002802\00002802-68.dwg FIG 9

Koppers001780

- Legend:
- Support Pile Locations (to be protected during dredging)
  - - - Property Line
  - OHW = 20.41 ft NAVD 88
  - - - OLW = 7.91 ft NAVD 88
  - ..... 50% River Stage Elevation = 10.23 ft NAVD 88
  -  Extent and Elevation of 18 in Thick Cap
  -  Extent and Elevation of 6 in Thick Cover

- Notes:
1. Bathymetric contours provided by the Lower Willamette Group as part of the Portland Harbor Superfund Site study (2003).
  2. Upland topography directed by Anchor Environmental as part of upland investigation (2002).
  3. Horizontal Datum: Oregon State Plane North NAD 83 (ft).
  4. Vertical Datum: NAVD 88 (ft).
  5. Former Drainage Ditch location from Phase 1 Remedial Investigation Summary Report (HAI 1998).
  6. Slope beneath pipeline support structure allowed to settle to angle of repose - shown at 1H:1V.



**Figure 8**  
Alternatives B, C, D, and E - Post Cap and Cover Bathymetry  
NW Natural "Gasco" Site

# J. CAMERON McKERNAN COMPANY

Engineering & Naval Architecture

2303 North Randolph Avenue • Portland, Oregon 97227 • (503) 232-7211 • FAX (503) 232-7658

HAND DELIVERED

File No. P97-10

July 21, 2005

Koppers Industries, Inc.  
7540 NW St. Helens Road  
Portland, Oregon 97210-3663

**COPY**

Attention: Amos Kameron

Subject: Removal of Tar Body at NW Natural "Gasco" Site

Reference: Public Review Draft – Engineering Evaluation/Cost Analysis dated May 2002

Enclosures: Figures 2, 3, 4, 6 & 8 of the Referenced Public Review Draft

Gentlemen:

As you requested we have reviewed the subject Tar Body Removal with respect to the potential effects on your facility, particularly the pier.

Although the exact procedure is not completely determined at this time, it appears the recommended procedure is to remove the major portion of the tar body by dredging with a floating derrick and a clam shell bucket and then capping the residual material with a layer of 6" minus fill material varying in depth from 12" to 18". Removed contaminated material would be transported from the site by barge for disposal at a hazardous waste facility near Boardman, Oregon. During work in the water on the site, the adjacent river area would be protected from the spread of contaminated material and silt by a two part flexible barrier that would be both anchored and floating.

The tar body is upstream and immediately adjacent to your pipeline bridge out to the pier. The pilings for the pipeline bridge and the upstream ship mooring dolphin are at the outer edge of the dredge area. The pilings are within the cap area.

The tar body removal operation has potential effects on your pier as follows:

1. From the tentative scheduling, it appears the pier will be inaccessible to a ship for several weeks.
2. Operation of a clam shell dredge adjacent to the access bridge has the potential to damage your pipeline, the pipeline bridge, and the bridge and dolphin support pilings.
  - a) Placing a clam shell bucket in the water is usually not a very accurate operation.
  - b) A small amount of dredging will be done on the downstream side of the bridge. Operating a clam shell bucket over the top of the bridge could easily damage the pipeline from falling material and contact with the bucket.
  - c) Perhaps use of an excavating backhoe operated from a barge could be considered for work around the pilings.

Cont'd . . .

**COPY**


McKernan Letter Continued

3. The pipeline bridge was not designed to handle mooring loads from any vessels. The contractors doing the tar body removal and "capping" work should not tie-off or breast any equipment against the pipeline bridge.
4. The referenced document mentions a Corps of Engineers permit will be required. In addition a State of Oregon permit will be required to place the "cap" fill material. In reviewing the plan, we did not see any "time-line" for the Corps permit review and approval.

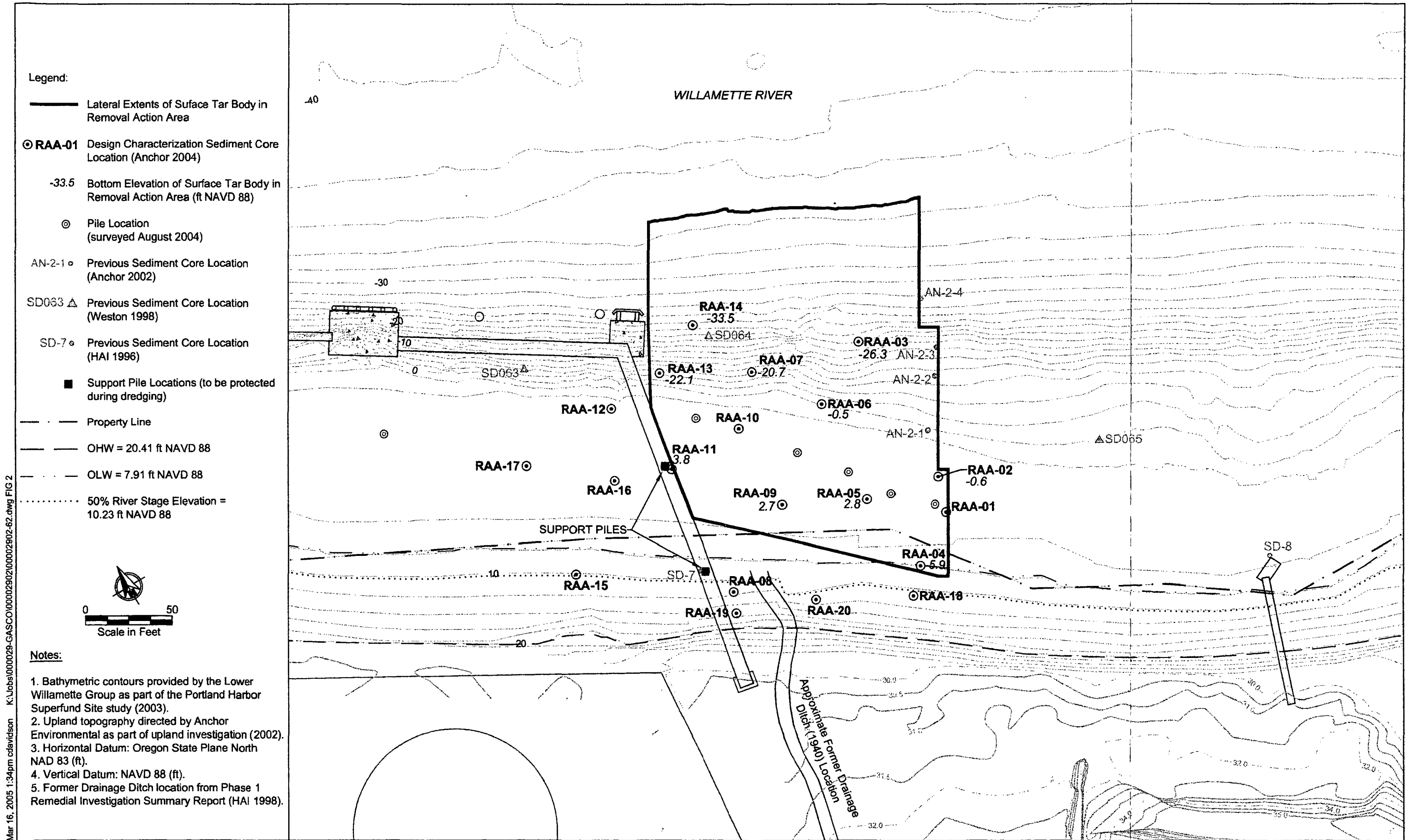
This is a really major project that could have an adverse effect on your facility. We recommend that you have some kind of input to the contracting process as a measure to prevent damage to your facility and to prevent future litigation in the event of damage.

Very truly yours,

J. CAMERON MCKERNAN COMPANY

By:   
J. Cameron McKernan, President

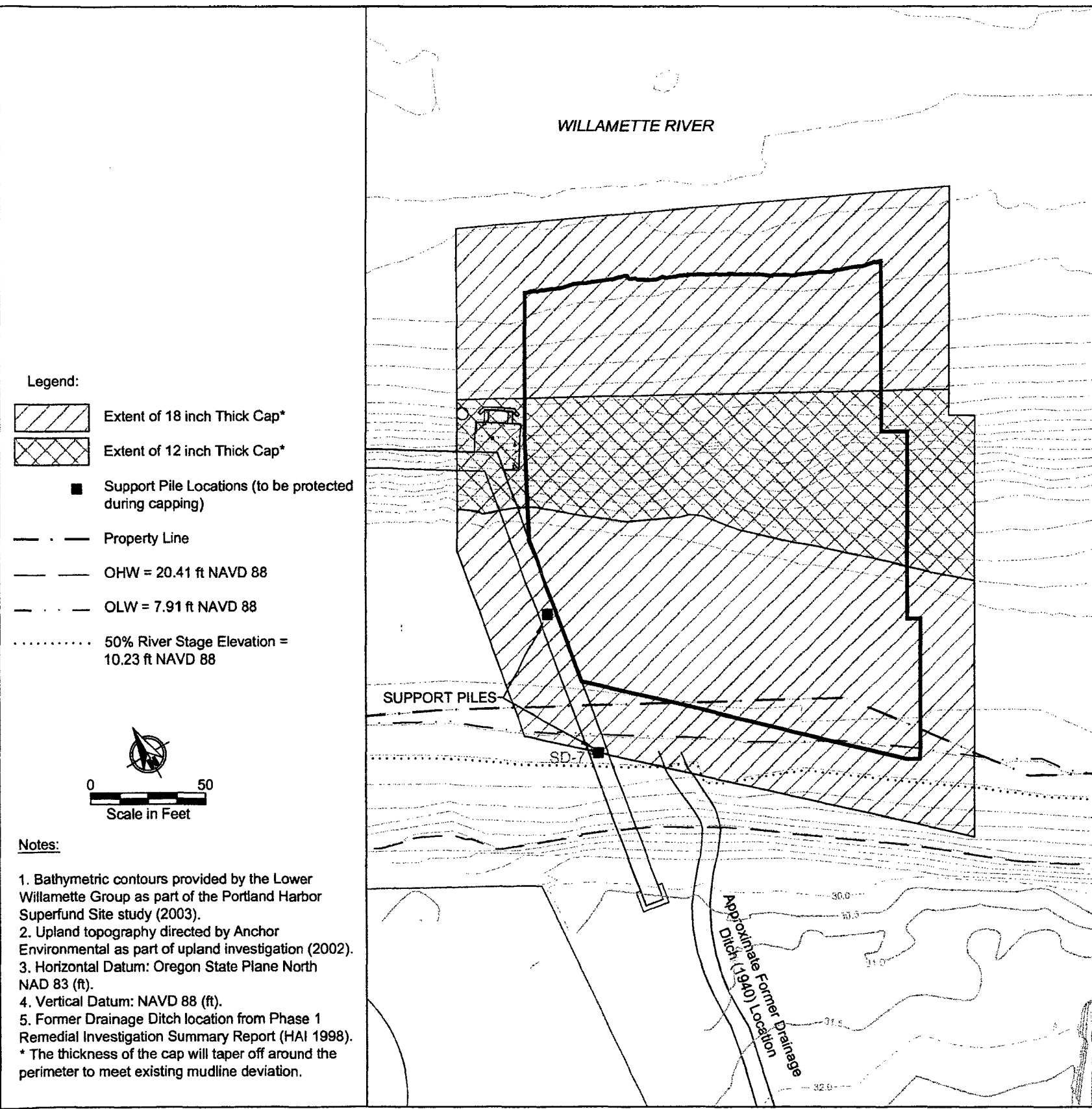
Koppers001783



**Figure 2**  
Lateral and Vertical Extents of Surface Tar Body  
NW Natural "Gasco" Site

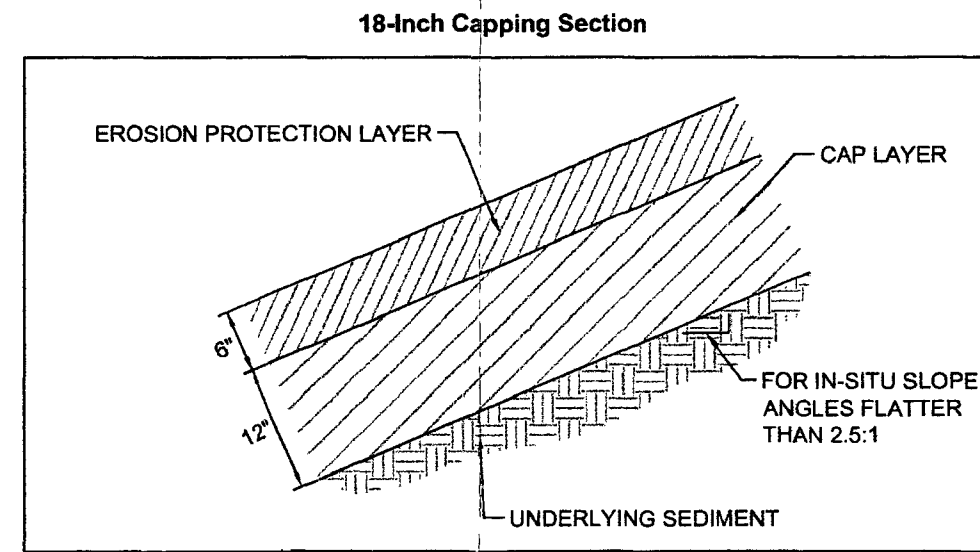
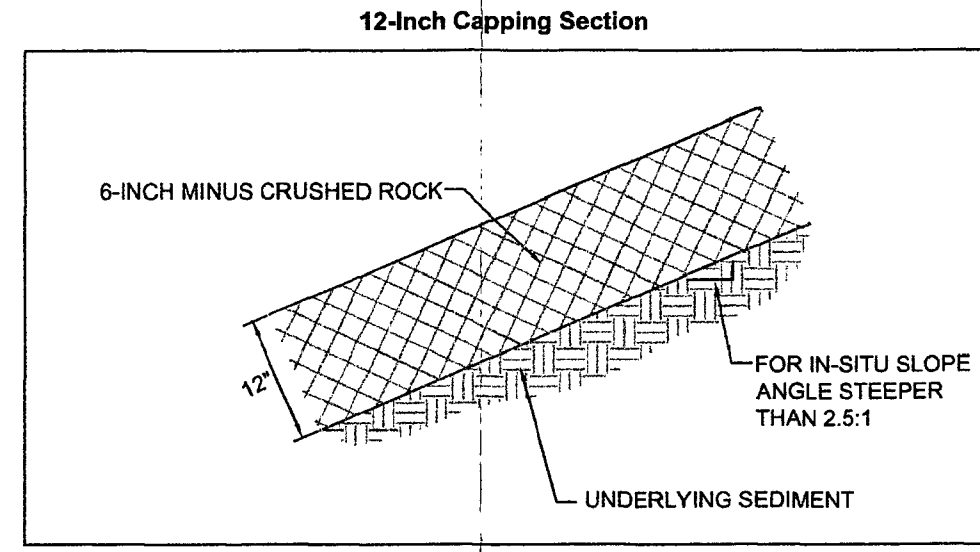
Koppers001784

Apr 19, 2005 4:02pm cdavidson K:\Jobs\000029-GASCO\00002902\00002902-64.dwg FIG 3



- Legend:
- Extent of 18 inch Thick Cap\*
  - Extent of 12 inch Thick Cap\*
  - Support Pile Locations (to be protected during capping)
  - Property Line
  - OHW = 20.41 ft NAVD 88
  - OLW = 7.91 ft NAVD 88
  - 50% River Stage Elevation = 10.23 ft NAVD 88

- Notes:
1. Bathymetric contours provided by the Lower Willamette Group as part of the Portland Harbor Superfund Site study (2003).
  2. Upland topography directed by Anchor Environmental as part of upland investigation (2002).
  3. Horizontal Datum: Oregon State Plane North NAD 83 (ft).
  4. Vertical Datum: NAVD 88 (ft).
  5. Former Drainage Ditch location from Phase 1 Remedial Investigation Summary Report (HAI 1998).
- \* The thickness of the cap will taper off around the perimeter to meet existing mudline deviation.



**Figure 3**  
Alternative A - Capping Plan  
NW Natural "Gasco" Site

Koppers001785

Mar 17, 2005 12:27pm cdaivison K:\Jobs\000029-GASCO\00002902\00002902-65.dwg FIG 5

- Legend:
- 1.5** Dredge Prism and Dredge Elevation
- RAA-01 ⊙ Design Characterization Sediment Core Location (Anchor 2004)
- 33.5 Bottom Elevation of Surface Tar Body in Removal Action Area (ft NAVD 88)
- AN-2-1 ⊙ Previous Sediment Core Location (Anchor 2001)
- SD063 ▲ Previous Sediment Core Location (Weston 1998)
- SD-7 ⊙ Previous Sediment Core Location (HAI 1996)
- ⊙ Pile Location (To be removed during dredging)
- Support Pile Locations (to be protected during dredging)
- — — Property Line
- — — OHW = 20.41 ft NAVD 88
- — — OLW = 7.91 ft NAVD 88
- ..... 50% River Stage Elevation = 10.23 ft NAVD 88
- ▲ Control Point



Notes:

1. Bathymetric contours provided by the Lower Willamette Group as part of the Portland Harbor Superfund Site study (2003).
2. Upland topography directed by Anchor Environmental as part of upland investigation (2002).
3. Horizontal Datum: Oregon State Plane North NAD 83 (ft).
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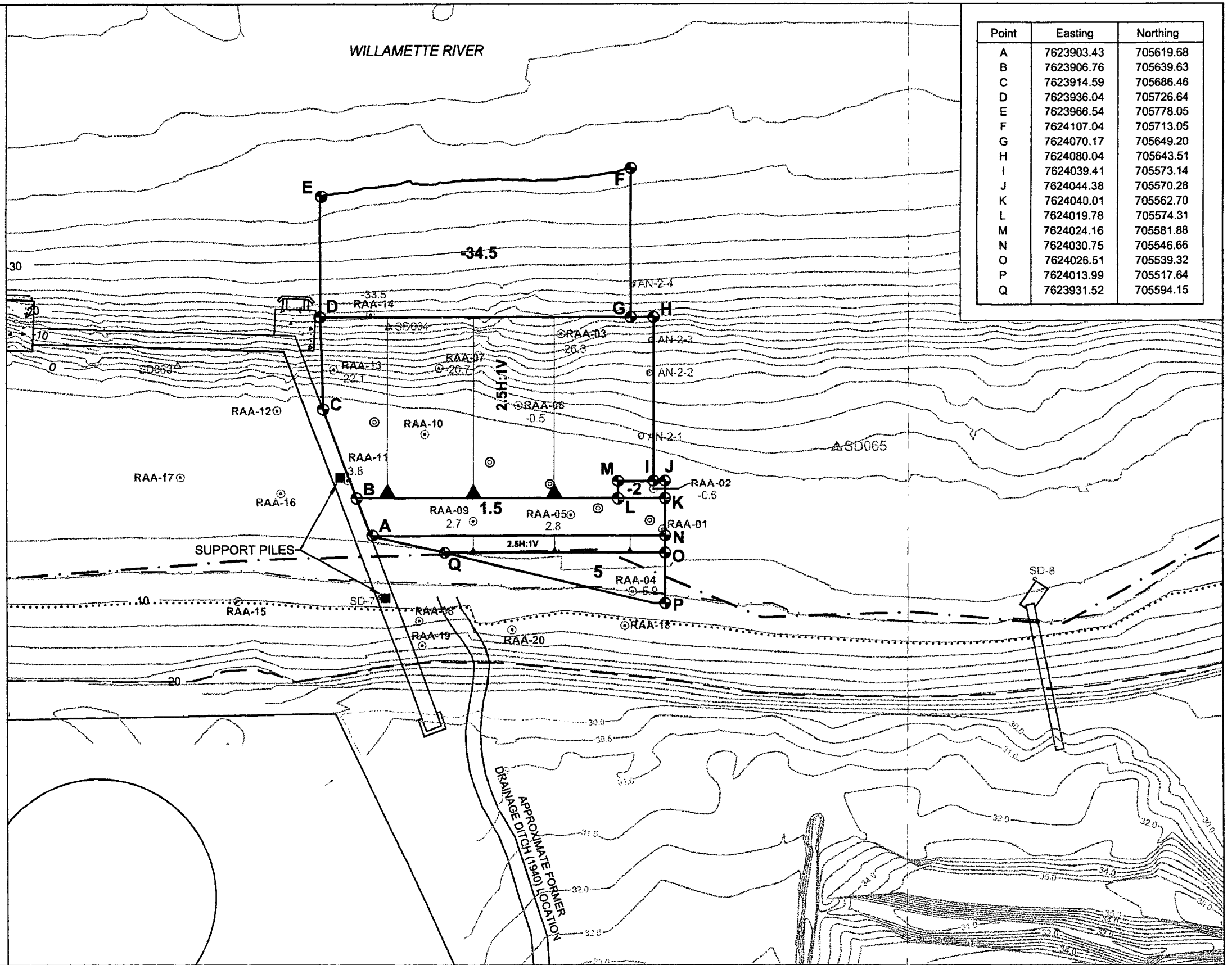
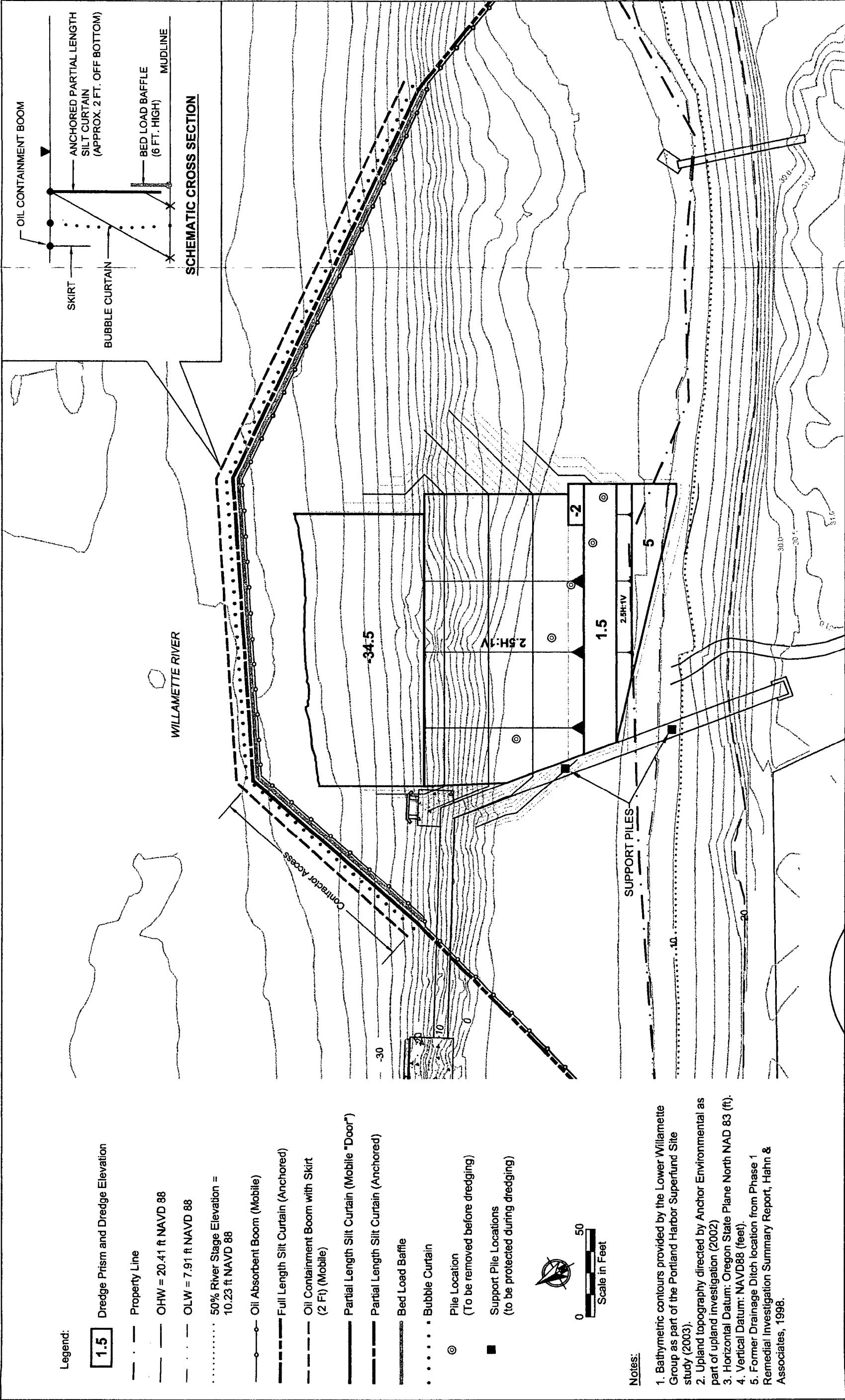


Figure 4  
Alternatives B, C, D, and E – Dredge Plan  
NW Natural "Gasco" Site



**Figure 6**  
 Alternatives B and C - Outer Removal Area Non-Rigid Containment Configuration  
 NW Natural "Gasco" Site

**DRAFT**

J. CAMERON McKERNAN  
Engineer - Naval Architect

1208 S.E. 7th Avenue • Portland, Oregon 97214 • (503) 232-7211 • FAX (503) 232-7658

P&I  
July 2, 1992

Koppers Industries, Inc.  
7540 NW Saint Helens Road  
Portland, Oregon 97210-3663

Attention: John A. Oxford

Subject: Ship Dock and Unloading System

Gentlemen:

I have briefly reviewed your requirements with John Oxford. I have also briefly visited your site. Based on the information obtained, I have prepared an outline of engineering and management tasks to be performed to design and construct a new ship dock and unloading system. These tasks are outlined on the attached list. I also attach a rough hard sketch showing the completed facility.


Based on the tasks I have outlined, I estimate the engineering and management costs for this project as follows:

Permit applications	\$ 5,000
Construction drawings	40,000
Construction assistance	<u>15,000</u>
	\$60,000

I would be pleased to offer you a fixed price to do the construction drawings. The permit work and construction assistance I would do on a "time and material" basis at a rate of \$45 per man-hour.

I understand you would like to have the facility operational by year end. I can support such a program. However, you must get the permit applications submitted soon.

Very truly yours,

  
J. Cameron McKernan



KOPPERS INDUSTRIES

NEW SHIP DOCK & UNLOADING FACILITY  
LIST OF ENGINEERING TASKS

COPY

- Obtain Permits

City of Portland

Land Use Review (Willamette Greenway)

Building Permit

Corps of Engineers

Oregon State Division of Lands

- Develop Construction Drawings

Site Plan

Dock and Bridge

Mooring and Breasting Dolphins

Shore Deadman/Anchor

Access Walkways for Line Handling

Gangway for Ship Access

Electric Power and Lighting

Conveying Pipe and Support Structure

Removal Plans

- Construction Assistance

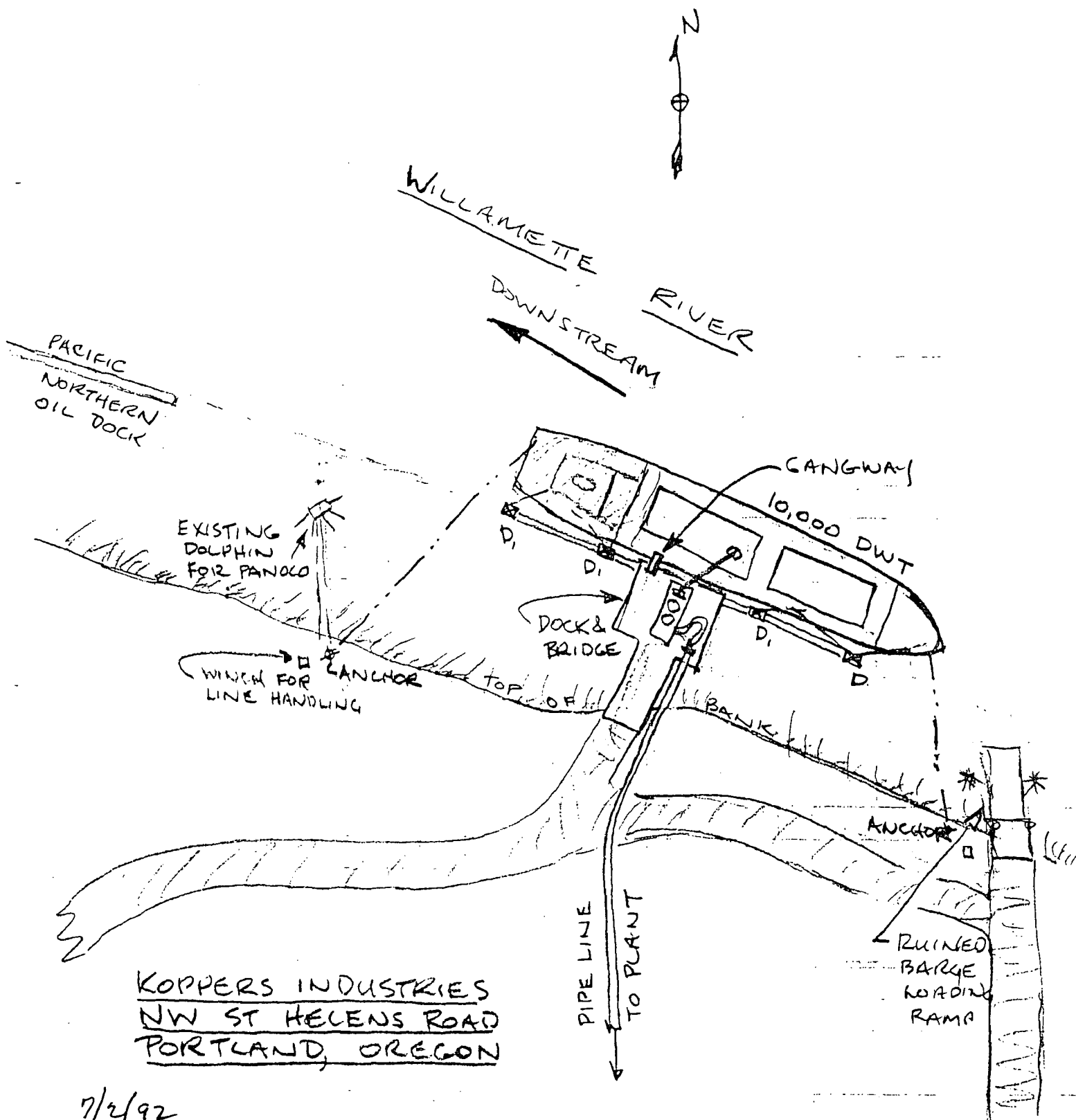
Preparation of specifications for contracted work

Inspection of contracted work

Coordination and problem resolution during construction

Liaison with City of Portland inspectors

Assistance during "start-up"



7/2/92  
J. M. M.



## EQUEST

										Request No.	9270-20		
Division	TAR				Location	N.W. PLANT				Request Date	1 / 11 / 92		
Request Initiated By	JOHN A OXFORD					Approved By							
Title	STORM WATER COLLECTION SYSTEM FOR NEW PITCH SHED												
Amount of Request	\$ 48,000.00		Depreciation Life	10 YRS	Estimated Life	10 YRS	Approval Date	MO.	19	YEAR	93		
Class of Expenditure	See Reverse	<u>IAA</u>	Depreciation Acct. No.	305	969	X	9270	910					
Specification & Description: INSTALL 4'X4'X6' CATCH BASIN. INSTALL 6" 8" & 10" PVC PIPE TO CATCH AND GUIDE STORMWATER INTO THE CATCH BASIN. INSTALL A 514' OF 4" A.B.S. PIPE FASTENED TO ANGLE IRON AND HUNG ON PITCH SHEDS AND PIPE STANTIONS ALL THE WAY TO COLLECTION SUMP IN LOWER TANK FARM.													
Summary of Justification: CITY OF PORTLAND, OR. HAS ISSUED NEW REGULATIONS GOVERNING THE DISPOSITION OF STORMWATER OFF OF BUILDINGS. THE NEW PITCH SHED REQUIRES THIS SPECIAL HANDLING FOR THE COLLECTION OF THE STORM WATER AND ITS CONTAINMENT AT THE SUMP BEFORE TESTING AND PUMPING TO THE WILLAMETTE RIVER, UNDER THE TERMS OF OUR N.P.D.E.S. PERMIT.													
ENGINEERING: By <u>ED BENNETT</u> Approval _____ COSTS: Cash Expenditure (1) <u>48,000.00</u> Trade-In or Salvage (2) _____													
ESTIMATE: By <u>J.A. OXFORD</u> Approval _____ Amt. of Requests (1) + (3) <u>48,000.00</u>													
Type of Investment	Building	%	Equipment	%	Land	%	Type of Equipment	New	Used	Age	For Use On	Owned Property	Leased Property
EARNINGS OR COST: Division Income Before Interest & Taxes _____ ( 5 Yrs. Average) % Return On Net Investment _____ Added Working Capital Required If Any _____													
RETIREMENTS: Total Original Value _____ (PDA) Attached Years Acquired _____ Total Book Value _____							CONSTRUCTION BY: Est. Schedule of Expense <u>1ST QTR</u> Est. Start - Up Date <u>1-12-93</u> Est. Close to Property _____ Referral to Insurance _____						
APPROVAL: Production Manager _____ DATE _____ <b>RECEIVED</b> Capital Planning _____ DATE _____ Environmental & Safety _____ DATE _____ Engineering _____ DATE _____ Division Controller _____ DATE _____ KOPPERS INDS. INC. <u>02/02/93</u> DATE _____ PORTLAND GROUP Controller _____ DATE _____ Other _____ DATE _____													



Koppers Industries, Inc.  
7540 N.W. Saint Helens Road  
Portland, OR 97210-3663

Telephone: (503) 285-3681  
FAX: (503) 285-2831

*Swearingen  
approved this  
letter.  
Note CC's below*

August 14, 1992

Mr. Allen Kucera  
% Robert Earle Inc.  
P.O. Box 841  
Tualatin, Oregon 97062

Dear Allen:

In reference to our telephone conversation of August 13, 1992, you mentioned that the City of Portland in reviewing our application for Building Permits had raised a question of how we would address storm water runoff from the new building.

By way of this letter, let me assure you that the issue of storm water is fully addressed by Koppers Industries Inc. First of all, we generate no waste water from our production operations. We do have a N.P.D.E.S. Permit # 100419 for the disposal of storm water runoff to the Willamette River. No water is allowed off site until it is collected and sampled and then certified by Coffey Laboratory, who is approved by Oregon D. E. Q., then and only then is the water pumped away. In regards to the proposed storage building that your Company will build for us, our construction plans include provisions for additional storm water collection sampling, and certification consistent with existing N.P.D.E.S. permit requirements.

Please convey this information to the City of Portland and the Permit Division. This project as well as any future expansion in Koppers Plant will always address the Environmental concerns of the community in a responsible manner. If any further information is needed from me please feel free to call.

Regards,

*John A. Oxford*

John A. Oxford  
Plant Manager

CC: L. Flaherty      Pittsburgh  
W. Swearingen      Pittsburgh  
A. Kameroner      Portland

Koppers001791

Portland Tank Data Base

Plant Name	Tank ID#	Strapping Tables Available?	Current Contents June 2002	Contents	Content Type	Installation Date	Year Cleaned	Nominal Capacity (gals)	Bottom Residue (gal)	Actual or Estimated
Portland	POR-T-01		Crude Tar	Crude Tar	Tars	1952		660000	19755	
Portland	POR-T-02		Crude Tar	Crude Tar	Tars	1942		1065000	26851	
Portland	POR-T-03		Methyl solvent	Methyl solvent	Distillates	1942		100000	1691	
Portland	POR-T-101	○	Creosote	Creosote	Preservatives	1952		759000	169184	
Portland	POR-T-102		Heavy Oil	Heavy Oil	Distillates	1975		9282	0	
Portland	POR-T-11		Creosote	Creosote	Preservatives	1942		254000	3131	
Portland	POR-T-12		Crude & Ola Tar	Cr & Ola Tar	Petroleum	1942		56000	1000	
Portland	POR-T-17		Heavy Oil	Heavy Oil	Distillates	1942		20000	850	
Portland	POR-T-18		NSR Oil	NSR Oil	Distillates	1942		20000	2547	
Portland	POR-T-19		P & R Oil	P & R Oil	Distillates	1942		20000	850	
Portland	POR-T-20		Creosote	Creosote	Preservatives	1942		317000	5444	
Portland	POR-T-23		Light uncor. Creo	Light uncor. Creo	Distillates	1942		20000	1977	
Portland	POR-T-33	○	Heavy oil	Heavy Oil	Distillates	1942		45000	0	
Portland	POR-T-34		NSR Oil	NSR Oil	Distillates	1942		45000	1585	
Portland	POR-T-39		Creosote	Creosote	Preservatives	1942		20000	800	
Portland	POR-T-4		Light uncor. Creo	Light uncor. Creo	Distillates	1942		100000	16081	
Portland	POR-T-53	×	Creosote	Creosote	Preservatives	1947	2002	16000	0	
Portland	POR-T-65	○	Liquid Pitch	Liquid Pitch	Pitches	1947	1990	761000	0	
Portland	POR-T-66	○	Creosote	Creosote	Preservatives	1947		191000	18815	
Portland	POR-T-67	○	Heavy oil	Heavy Oil	Distillates	1947		102000	0	
Portland	POR-T-68	○	Liquid Pitch	Liquid Pitch	Pitches	1947	1990	248000	0	
Portland	POR-T-74	×	Creosote	Creosote	Preservatives	1947	2002	20000	0	
Portland	POR-T-99		Creosote	Creosote	Preservatives	1951		209000	3600	
Portland	POR-T-SW-1	×	Storm Water	Storm Water	Storm Water	1947		45000	0	
Portland	POR-T-SW-2	×	Storm Water	Storm Water	Storm Water	1947		45000	0	
Portland	POR-T-SW-3	×	Storm Water	Storm Water	Storm Water	1947		45000	0	
Portland	POR-T-SW-4	×	Storm Water	Storm Water	Storm Water	1947		45000	0	
Portland	POR-T-SW-5	×	Storm Water	Storm Water	Storm Water	1947		20000	0	
Portland	POR-T-SW-6	×	Storm Water	Storm Water	Storm Water	1947		20000	0	
Portland	POR-T-200	○	Pitch	Pitch	Pitches	1999		210000	0	
Portland	POR-T-V201		Pitch	Pitch	Pitches	1966		19000	2300	
Portland	POR-T-V207		Pitch	Pitch	Pitches	1966		19000	100	
Portland	POR-T-240	○	Heat Transfer Oil	H. Transfer Oil	H. Transfer Oil	1999		2000	0	
Portland	POR-T-250	○	Heat Transfer Oil	H. Transfer Oil	H. Transfer Oil	1991		2000	0	

34 - 8 = 26  
8/21/02

Portland Tank Data Base

Tank ID#	Manway/access for sampling tank?	Lifetime estimate (years)	Orientation	Diameter (ft)	Height (ft)	Operating Pressure	Construction Material	Construction Technique	Foundation Construction	Elevated? y/n	Spill Containment y/n
POR-T-01			Vertical	67.08	25.5	Atmospheric	Carbon Steel	Riveted	Concrete Ringwall	No	No
POR-T-02			Vertical	78	29.75	Atmospheric	Carbon Steel	Riveted	Concrete Ringwall	No	No
POR-T-03			Vertical	24	30	Atmospheric	Carbon Steel	Welded	Concrete Ringwall	No	Yes
POR-T-101			Vertical	60	36	Atmospheric	Carbon Steel	Riveted	Concrete Ringwall	No	Yes
POR-T-102			Horizontal	8	22.5	Atmospheric	Carbon Steel	Welded	Other	Yes	Yes
POR-T-11			Vertical	40	25	Atmospheric	Carbon Steel	Riveted	Concrete Ringwall	No	No
POR-T-12			Vertical	18	30	Atmospheric	Carbon Steel	Welded	Concrete Ringwall	No	No
POR-T-17			Vertical	12	24	Atmospheric	Carbon Steel	Welded	Concrete Ringwall	No	Yes
POR-T-18			Vertical	12	24	Atmospheric	Carbon Steel	Welded	Concrete Ringwall	No	Yes
POR-T-19			Vertical	12	24	Atmospheric	Carbon Steel	Welded	Concrete Ringwall	No	Yes
POR-T-20			Vertical	43	29	Atmospheric	Carbon Steel	Riveted	Concrete Ringwall	No	Yes
POR-T-23			Vertical	12	24	Atmospheric	Carbon Steel	Welded	Concrete Ringwall	No	Yes
POR-T-33			Vertical	18	24	Atmospheric	Carbon Steel	Welded	Concrete Ringwall	No	Yes
POR-T-34			Vertical	18	24	Atmospheric	Carbon Steel	Welded	Concrete Ringwall	No	Yes
POR-T-39			Vertical	12	24	Atmospheric	Carbon Steel	Welded	Concrete Ringwall	No	Yes
POR-T-4			Vertical	24	30	Atmospheric	Carbon Steel	Welded	Concrete Ringwall	No	Yes
POR-T-53			Horizontal	10	28	Atmospheric	Carbon Steel	Welded	Other	Yes	Yes
POR-T-65			Vertical	60.33	35.58	Atmospheric	Carbon Steel	Welded	Concrete Ringwall	No	Yes
POR-T-66			Vertical	30.25	35.42	Atmospheric	Carbon Steel	Welded	Concrete Ringwall	No	Yes
POR-T-67			Vertical	24.25	28.5	Atmospheric	Carbon Steel	Welded	Concrete Ringwall	No	Yes
POR-T-68			Vertical	37.83	29.5	Atmospheric	Carbon Steel	Welded	Concrete Ringwall	No	Yes
POR-T-74			Vertical	11	28	Atmospheric	Carbon Steel	Welded	Concrete Ringwall	No	Yes
POR-T-99			Vertical	35	29	Atmospheric	Carbon Steel	Welded	Concrete Ringwall	No	Yes
POR-T-SW-1			Vertical	18	24	Atmospheric	Carbon Steel	Welded	Concrete Ringwall	No	Yes
POR-T-SW-2			Vertical	18	24	Atmospheric	Carbon Steel	Welded	Concrete Ringwall	No	Yes
POR-T-SW-3			Vertical	18	24	Atmospheric	Carbon Steel	Welded	Concrete Ringwall	No	Yes
POR-T-SW-4			Vertical	18	24	Atmospheric	Carbon Steel	Welded	Concrete Ringwall	No	Yes
POR-T-SW-5			Vertical	12	24	Atmospheric	Carbon Steel	Welded	Concrete Ringwall	No	Yes
POR-T-SW-6			Vertical	12	24	Atmospheric	Carbon Steel	Welded	Concrete Ringwall	No	Yes
POR-T-200			Vertical	79	57	Atmospheric	Carbon Steel	Welded	Concrete Ringwall	No	No
POR-T-V201			Vertical	15	19.5	Atmospheric	Carbon Steel	Welded	Other	Yes	No
POR-T-V207			Vertical	15	19.5	Atmospheric	Carbon Steel	Welded	Other	Yes	No
POR-T-240			Horizontal	6	13	20 PSI	Carbon Steel	Welded	Other	Yes	Yes
POR-T-250			Horizontal	6	13	Atmospheric	Carbon Steel	Welded	Other	Yes	Yes

Portland Tank Data Base

Tank ID#	Spill Containment Method	Containment Paving	Insulation y/n	Insulation Thickness (in)	Fume Collection ?	Insulation Material	Leak Detection y/n	Internal Inspection Date	External Inspection Date	Comments
POR-T-01	None	Soil	No	0	No	None	No			
POR-T-02	None	Soil	No	0	No	None	No			
POR-T-03	Concrete Dike	Soil	No	0	No	None	No			
POR-T-101	Concrete Dike	Soil	Yes	2	No	Fiber Glass	No			
POR-T-102	Concrete Dike	Concrete	No	2.5	No	Glass Block	No			
POR-T-11	None	Soil	Yes	2.5	No	Fiber Glass	No			
POR-T-12	None	Soil	No	0	No	None	No			
POR-T-17	Concrete Dike	Soil	No	0	No	None	No			
POR-T-18	Concrete Dike	Soil	No	0	No	None	No			
POR-T-19	Concrete Dike	Soil	No	0	No	None	No			
POR-T-20	Concrete Dike	Soil	Yes	2.5	No	Fiber Glass	No			
POR-T-23	Concrete Dike	Soil	No	0	No	None	No			
POR-T-33	Concrete Dike	Soil	No	0	No	None	No			
POR-T-34	Concrete Dike	Soil	No	0	No	None	No			
POR-T-39	Concrete Dike	Soil	Yes	2	No	Fiber Glass	No			
POR-T-4	Concrete Dike	Soil	No	0	No	None	No			
POR-T-53	Concrete Dike	Soil	No	0	No	None	No			
POR-T-65	Concrete Dike	Asphalt	Yes	3	Yes	Other	No			
POR-T-66	Concrete Dike	Soil	No	0	No	None	No			
POR-T-67	Concrete Dike	Soil	Yes	2.5	No	Fiber Glass	No			
POR-T-68	Concrete Dike	Soil	Yes	2.5	Yes	Fiber Glass	No			
POR-T-74	Concrete Dike	Soil	No	0	No	None	No			
POR-T-99	Concrete Dike	Soil	No	0	No	None	No			
POR-T-SW-1	Concrete Dike	Concrete	No	0	No	None	No			
POR-T-SW-2	Concrete Dike	Concrete	No	0	No	None	No			
POR-T-SW-3	Concrete Dike	Concrete	No	0	No	None	No			
POR-T-SW-4	Concrete Dike	Concrete	No	0	No	None	No			
POR-T-SW-5	Concrete Dike	Concrete	No	0	No	None	No			
POR-T-SW-6	Concrete Dike	Concrete	No	0	No	None	No			
POR-T-200	None	Concrete	Yes	6	Yes	Fiber Glass	No			
POR-T-V201	None	Concrete	Yes	4	No	Asbestos	No			
POR-T-V207	None	Asphalt	No	0	No	None	No			
POR-T-240	Con Ringwl	Concrete	No	0	No	None	No			
POR-T-250	Con Ringwl	Concrete	No	0	No	None	No			

**KOPPERS  
INDUSTRIES**

FAX TRANSMITTAL

7540 N.W. Saint Helens Rd.  
Portland, Oregon 97210-3663  
Phone: (503) 286-3681  
Fax: (503) 285-2831  
Web Page: [www.koppers.com](http://www.koppers.com)

TO: Jim Dietz

DATE: 5-11-99

Bill Meisinger

~~xxxx~~ Tack Stephenson

TOTAL # OF PAGES: 3

Steve Kifer

IF THIS TRANSMITTAL IS IN ERROR, PLEASE CALL 503-286-3681 FAX # 503-285-2831



**DR**

May 11, 1999

Mr. Amos Kameron  
Koppers Industries, Inc.  
7540 NW Saint Helens Road  
Portland, OR 97210-3663

Re: N W Natural/Koppers Industries, Inc Lease Agreement – October 1, 1998  
Leasehold Improvements

Dear Amos,

This is in regard to my letter dated 4-16-99 stating that N W Natural did not have an objection to your installation of a liquid or solid coal tar processing plant on the property as long as the Oregon Department of Environmental Quality (DEQ) approved the installation.

On May 7, 1999, N W Natural received a letter from the DEQ which approved of the installation with several conditions.

- ◆ Two monitoring wells will be installed to monitor potential impacts from the installation. One well will be installed in the alluvial zone and one to into bedrock. N W Natural will install the bedrock well as part of the remedial investigation on the site. However, the company was not planning on the installation of an additional alluvial well. It is my understanding from our telephone conversation, May 7, 1999, that Koppers Industries, Inc. will be responsible for the installation of the alluvial well.
- ◆ Hahn and Associates is preparing for the installation of the wells. They are sending the well location plan to the DEQ for approval, and will install the wells hopefully by next week. Regular monitoring activities on the site are being conducted today and will baseline the condition in the existing Monitoring Well No. 14.
- ◆ N W Natural will work with the DEQ to develop a monitoring program for the wells.
- ◆ Approval for future tank installation will depend on the results of the groundwater-monitoring program.
- ◆ If the tank installation exacerbates the contamination Koppers Industries Inc. and N W Natural will address clean-up options.

N W Natural agreed to the above in a letter to the DEQ dated May 10, 1999. (Copied to Koppers Industries, Inc.).

These agreements allow Koppers Industries Inc. to proceed with the tank installation. Hopefully everything will go well for you. Please let me know if you need anything further.

Sincerely,

S.K.A.

Sandra K. Hart, Manager  
Risk Environment and Land

**Columbia Inspection, Inc.**  
U.S. CUSTOMS APPROVED GAUGERS  
PETROLEUM AND ENVIRONMENTAL LABORATORY  
TANK CALIBRATIONS

OFFICES

Portland, OR (503) 286-9464  
Tacoma, WA (206) 922-8781  
Martinez, CA (510) 229-0360  
San Pedro, CA (310) 833-1557

Fed. I.D. 93-0746019

KOPPERS INDUSTRIES, INC.  
AMOS KAMERER  
7540 NW ST. HELENS ROAD  
PORTLAND, OR 97210-3663

INVOICE DATE: 12/18/97

INVOICE NO. 571751

12/17/97	For Services Rendered: REPORT NUMBER: 971751  Client's Project Name: WTKS 1-3-5  Date Submitted: 12/16/97  Sample Marked: TANKS 1-3-5 WASTE WATER GRAB SAMPLE   ANALYSIS OF THE WASTE WATER SAMPLE. O&G, TOTAL, GRAV*.....QUOTED.... 1 @ \$ 39.00  Testing Cost:	\$ 39.00 ----- \$ 39.00	\$ 39.00
THANK YOU FOR DOING BUSINESS WITH CI.			
TERMS- NET 15 DAYS		TOTAL	\$ 39.00

ALL WORK PERFORMED IS SUBJECT TO THE  
TERMS AND CONDITIONS OF OUR CURRENT  
SCHEDULE OF RATES. LIABILITY IS LIMITED  
TO THE AMOUNT OF THIS INVOICE

Please state invoice numbers and remit to:

**Columbia Inspection, Inc.**

P.O. Box 83569, St. Johns Station

KI 37W REV 2 6M 6/90

CIRCLE TERMS ON INVOICE

GIL	DET.	S-DET.	LOC.	DEPT.	TAX	EMP #	MOVE # PO #	AMOUNT	INV #	DATE				
305	807		9270	910	0362			39 -	571751	12/18/97				
									↓ A/P DEPARTMENT USE ONLY ↓					
									VENDOR NUMBER	014327008				
									TERMS. CODE	045	DUE DATE: / /			
									DIVISION	483	MONTH	12	AUDIT NUMBER	92700657
OK TO PAY									GROSS AMOUNT		39 -			
									DISCOUNT \$					
									NET \$					

IMPORTANT: CIRCLE TERMS ON INVOICE

Koppers001798



# CERTIFICATE OF ANALYSIS

CLIENT: KOPPERS INDUSTRIES, INC.  
7540 NW ST. HELENS ROAD  
PORTLAND OR 97210-3663

PHONE: (503) 286-3681  
FAX: (503) 285-2831

DATE SUBMITTED: 12/16/97

PROJECT NAME: WWTKS 1-3-5

CI SAMPLE #	CLIENTS ID#	DATE	TIME	DESCRIPTION
971751-001-01		12/16/97	1400	TANKS 1-3-5 WASTE WATER GRAB SAMPLE

REPORT DATE: 12/17/97	REPORT NUMBER: 971751	PAGE: 1 OF 1
-----------------------	-----------------------	--------------

SAMPLE	ANALYSIS	PARAMETER	RESULT	UNIT	DETECTION LIMIT	ANALYST
TANKS 1-3-5 WASTE WATER GRAB SAMPLE						
971751-001-01	O&G, TOTAL, GRAV EPA 413.1/9070	TOTAL OIL & GREASE	ND	PPM	2	Gordon L.

REVIEWED BY:

Martin Little - Laboratory Manager

# Columbia Inspection, Inc.

U.S. CUSTOMS APPROVED GAUGERS  
PETROLEUM AND ENVIRONMENTAL LABORATORY  
TANK CALIBRATIONS

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Tacoma, WA (206) 922-8781  
Martinez, CA (510) 229-0360  
San Pedro, CA (310) 833-1557

Fed. I.D. 93-0746019

KOPPERS INDUSTRIES, INC.  
AMOS KAMERER  
7540 NW ST. HELENS ROAD  
PORTLAND, OR 97210-3663

INVOICE DATE: 11/30/97

INVOICE NO. 571651

11/28/97	For Services Rendered: REPORT NUMBER: 971651  Client's Project Name: WASTE WATER ANALYSIS  Date Submitted: 11/26/97  Sample Marked: TANKS 1-3-5 WASTE WATER GRAB SAMPLE   ANALYSIS OF THE WASTE WATER SAMPLE. O&G, TOTAL, GRAV*.....QUOTED.... 1 @ \$ 39.00  Testing Cost:	\$ 39.00 ----- \$ 39.00	\$ 39.00
THANK YOU FOR DOING BUSINESS WITH CI.			
TERMS- NET 15 DAYS		TOTAL	
		\$ 39.00	

ALL WORK PERFORMED IS SUBJECT TO THE  
TERMS AND CONDITIONS OF OUR CURRENT  
SCHEDULE OF RATES. LIABILITY IS LIMITED  
TO THE AMOUNT OF THIS INVOICE

Please state invoice numbers and remit to:

**Columbia Inspection, Inc.**

P.O. Box 83569, St. Johns Station  
Portland, OR 97283-0569

KI 37W REV 2 6M 6/90

CIRCLE TERMS ON INVOICE

GIL	DET.	S-DET.	LOC.	DEPT.	TAX	EMP #	MOVE # PO #	AMOUNT	INV #	DATE				
305	807		9270	910	0362			39 -	571651	11/30/97				
									↓ A/P DEPARTMENT USE ONLY ↓					
									VENDOR NUMBER	014327008				
									TERMS. CODE	045	DUE DATE: / /			
									DIVISION	483	MONTH	12	AUDIT NUMBER	92700637
OK TO PAY									GROSS AMOUNT		39 -			
									DISCOUNT \$					
									NET \$					

IMPORTANT: CIRCLE TERMS ON INVOICE

Koppers001800



# CERTIFICATE OF ANALYSIS

CLIENT: KOPPERS INDUSTRIES, INC.  
7540 NW ST. HELENS ROAD  
PORTLAND OR 97210-3663

PHONE: (503) 286-3681  
FAX: (503) 285-2831

DATE SUBMITTED: 11/26/97

PROJECT NAME: WASTE WATER ANALYSIS

CI SAMPLE #	CLIENTS ID#	DATE	TIME	DESCRIPTION
-------------	-------------	------	------	-------------

971651-001-01		11/26/97	1100	TANKS 1-3-5 WASTE WATER GRAB SAMPLE
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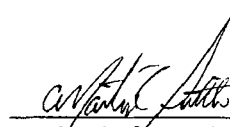
REPORT DATE: 11/28/97

REPORT NUMBER: 971651

PAGE: 1 OF 1

SAMPLE	TEST	PARAMETER	RESULT	UNIT	DETECTION LIMIT	ANALYST
TANKS 1-3-5 WASTE WATER GRAB SAMPLE						
	O&G, TOTAL, GRAV EPA 413.1/9070	TOTAL OIL & GREASE	2.0	PPM	2	Gordon L.

REVIEWED BY:

  
Martin Little - Laboratory Manager

# Columbia Inspection, Inc.

U.S. CUSTOMS APPROVED GAUGERS  
PETROLEUM AND ENVIRONMENTAL LABORATORY  
TANK CALIBRATIONS

## OFFICES

Portland, OR (503) 286-9464  
Tacoma, WA (206) 922-8781  
Martinez, CA (510) 229-0360  
San Pedro, CA (310) 833-1557

Fed. I.D. 93-0746019

KOPPERS INDUSTRIES, INC.  
AMOS KAMERER  
7540 NW ST. HELENS ROAD  
PORTLAND, OR 97210-3663

INVOICE DATE: 11/30/97

INVOICE NO. 571651

11/28/97	For Services Rendered: REPORT NUMBER: 971651  Client's Project Name: WASTE WATER ANALYSIS  Date Submitted: 11/26/97  Sample Marked: TANKS 1-3-5 WASTE WATER GRAB SAMPLE   ANALYSIS OF THE WASTE WATER SAMPLE. O&G, TOTAL, GRAV*.....QUOTED.... 1 @ \$ 39.00  Testing Cost:	\$ 39.00 ----- \$ 39.00	\$ 39.00
THANK YOU FOR DOING BUSINESS WITH CI.			
TERMS- NET 15 DAYS		TOTAL	\$ 39.00

ALL WORK PERFORMED IS SUBJECT TO THE  
TERMS AND CONDITIONS OF OUR CURRENT  
SCHEDULE OF RATES. LIABILITY IS LIMITED  
TO THE AMOUNT OF THIS INVOICE

Please state invoice numbers and remit to:

**Columbia Inspection, Inc.**

P.O. Box 83569, St. Johns Station  
Koppers001802



# CERTIFICATE OF ANALYSIS

CLIENT: KOPPERS INDUSTRIES, INC.  
7540 NW ST. HELENS ROAD  
PORTLAND OR 97210-3663

PHONE: (503) 286-3681  
FAX: (503) 285-2831

DATE SUBMITTED: 11/26/97

PROJECT NAME: WASTE WATER ANALYSIS

CI SAMPLE #	CLIENTS ID#	DATE	TIME	DESCRIPTION
971651-001-01		11/26/97	1100	TANKS 1-3-5 WASTE WATER GRAB SAMPLE

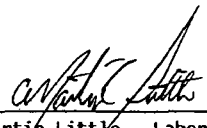
REPORT DATE: 11/28/97

REPORT NUMBER: 971651

PAGE: 1 OF 1

SAMPLE	TEST	PARAMETER	RESULT	UNIT	DETECTION LIMIT	ANALYST
TANKS 1-3-5 WASTE WATER GRAB SAMPLE						
	O&G, TOTAL, GRAV EPA 413.1/9070	TOTAL OIL & GREASE	2.0	PPM	2	Gordon L.

REVIEWED BY:

  
Martin Little - Laboratory Manager





# CERTIFICATE OF ANALYSIS

CLIENT: KOPPERS INDUSTRIES, INC.  
7540 NW ST. HELENS ROAD  
PORTLAND OR 97210-3663

PHONE: (503) 286-3681  
FAX: (503) 285-2831

DATE SUBMITTED: 11/21/97

PROJECT NAME: WASTE WATER ANALYSIS

CI SAMPLE #	CLIENTS ID#	DATE	TIME	DESCRIPTION
971622-001-01		11/21/97	0700	TANKS 2-4-6 WASTE WATER GRAB SAMPLE

REPORT DATE: 11/25/97

REPORT NUMBER: 971622

PAGE: 1 OF 1

SAMPLE	TEST	PARAMETER	RESULT	UNIT	DETECTION LIMIT	ANALYST
TANKS 2-4-6 WASTE WATER GRAB SAMPLE						

D&G, TOTAL, GRAV	TOTAL OIL & GREASE	2.7	PPM	2	Gordon L.
EPA 413.1/9070					

REVIEWED BY:

Martin Little - Laboratory Manager

**Columbia Inspection, Inc. 7133 N Lombard St. - Portland, OR 97203 (503) 286-9464 Fax (503) 286-5355**

KI 37W REV 2 6M 6/90

**CIRCLE TERMS ON INVOICE**[illegible]

INV # 5711622 DATE 11/26/97

↓ A/P DEPARTMENT USE ONLY ↓

VENDOR NUMBER	0	1	4	3	2	7	0	0	8
------------------	---	---	---	---	---	---	---	---	---

TERMS. CODE: 045 DUE DATE: / /

DIVISION	MONTH	AUDIT NUMBER
----------	-------	--------------

OK TO  
PAY

GROSS AMOUNT

39 -

DISCOUNT \$

Koppers001804

# Columbia Inspection, Inc.

U.S. CUSTOMS APPROVED GAUGERS  
PETROLEUM AND ENVIRONMENTAL LABORATORY  
TANK CALIBRATIONS

## OFFICES

Portland, OR (503) 286-9464  
Tacoma, WA (206) 922-8781  
Martinez, CA (510) 229-0360  
San Pedro, CA (310) 833-1557

Fed. I.D. 93-0746019

KOPPERS INDUSTRIES, INC.  
AMOS KAMERER  
7540 NW ST. HELENS ROAD  
PORTLAND, OR 97210-3663

INVOICE DATE: 11/26/97

INVOICE NO. 571622

11/25/97	For Services Rendered: REPORT NUMBER: 971622  Client's Project Name: WASTE WATER ANALYSIS  Date Submitted: 11/21/97  Sample Marked: TANKS 2-4-6 WASTE WATER GRAB SAMPLE  ANALYSIS OF THE WASTE WATER SAMPLE. O&G, TOTAL, GRAV.....QUOTED.... 1 @ \$ 39.00  Testing Cost:  <div style="text-align: center;">RECEIVED DEC 1 1997 KOPPERS INDS. INC. PORTLAND, OR</div>  THANK YOU FOR DOING BUSINESS WITH CI.		
		\$ 39.00 ----- \$ 39.00	\$ 39.00
TERMS- NET 15 DAYS		TOTAL	
		\$ 39.00	

ALL WORK PERFORMED IS SUBJECT TO THE  
TERMS AND CONDITIONS OF OUR CURRENT  
SCHEDULE OF RATES. LIABILITY IS LIMITED  
TO THE AMOUNT OF THIS INVOICE

Please state invoice numbers and remit to:

**Columbia Inspection, Inc.**

P.O. Box 83569, St. Johns Station  
Portland OR 97283-0569

Koppers001805



# CERTIFICATE OF ANALYSIS

CLIENT: KOPPERS INDUSTRIES, INC.  
7540 NW ST. HELENS ROAD  
PORTLAND OR 97210-3663

PHONE: (503) 286-3681  
FAX: (503) 285-2831

DATE SUBMITTED: 11/10/97

PROJECT NAME: WASTE WATER ANALYSIS

CI SAMPLE #	CLIENTS ID#	DATE	TIME	DESCRIPTION
971567-001-01		11/10/97	1000	TANKS 1-3-5 WASTE WATER GRAB SAMPLE
971567-001-02		11/10/97	1000	TANKS 1-3-5 WASTE WATER GRAB SAMPLE

REPORT DATE: 11/18/97

REPORT NUMBER: 971567

PAGE: 1 OF 1

SAMPLE	TEST	PARAMETER	RESULT	UNIT	DETECTION LIMIT	ANALYST
TANKS 1-3-5 WASTE WATER GRAB SAMPLE						
	O&G, TOTAL, GRAV EPA 413.1/9070	TOTAL OIL & GREASE	ND	PPM	2	Gordon L.
	PHENOLS, TOTAL EPA 420.1	TOTAL RECOVERABLE PHENOLICS	<0.1	PPM	0.1	Dick R.

REVIEWED BY:   
Martin Little - Laboratory Manager

Columbia Inspection, Inc. 7133 N Lombard St. - Portland, OR 97203 (503) 286-9464 Fax (503) 286-5355

KI 37W REV 2 6M 6/90

CIRCLE TERMS ON INVOICE

GIL	DET.	S-DET.	LOC.	DEPT.	TAX	EMP #	MOVE # PO #	AMOUNT	INV #	DATE	
305	807		9270	910	0362			74 -	571567	11/20/97	
									↓ A/P DEPARTMENT USE ONLY ↓		
									VENDOR NUMBER	014327008	
									TERMS. CODE	045	
									DUE DATE:	/ /	
OK TO PAY						GROSS AMOUNT			74 -	DIVISION	MONTH
										AUDIT NUMBER	

Koppers001806

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Martinez, CA (510) 229-0360  
San Pedro, CA (310) 833-1557

KOPPERS INDUSTRIES, INC.  
AMOS KAMERER  
7540 NW ST. HELENS ROAD  
PORTLAND, OR 97210-3663

**INVOICE NO. 571567**

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TERMS AND CONDITIONS OF OUR CURRENT  
SCHEDULE OF RATES. LIABILITY IS LIMITED  
TO THE AMOUNT OF THIS INVOICE**

*Columbia Inspection, Inc.*

P.O. Box 83569, St. Johns Station  
Portland, OR 97283-0569  
Koppers001807

# Columbia Inspection, Inc.

U.S. CUSTOMS APPROVED GAUGERS  
PETROLEUM AND ENVIRONMENTAL LABORATORY  
TANK CALIBRATIONS

## OFFICES

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Tacoma, WA (206) 922-8781  
Martinez, CA (510) 229-0360  
San Pedro, CA (310) 833-1557

Fed. I.D. 93-0746019

KOPPERS INDUSTRIES, INC.  
AMOS KAMERER  
7540 NW ST. HELENS ROAD  
PORTLAND, OR 97210-3663

INVOICE DATE: 11/20/97

INVOICE NO. 571579

11/18/97	<p>For Services Rendered: REPORT NUMBER: 971579</p> <p>Client's Project Name: WASTE WATER ANALYSIS</p> <p>Date Submitted: 11/12/97</p> <p>Sample Marked: W W TKS</p> <p>ANALYSIS OF THE WASTE WATER SAMPLE.</p> <p>TOTAL PHENOLICS*..... 1 @ No Charge</p> <p>Testing Cost:</p>	<p>\$ N/C</p> <p>-----</p> <p>\$ N/C</p>	<p>\$ N/C</p>
<p>ORIGINAL RECEIVED</p> <p>NOV 21 1997</p> <p>THANK YOU FOR DOING BUSINESS WITH CI. KOPPERS INDS., INC. PORTLAND, OR</p>			<p>\$ N/C</p>
<p>TERMS- NET 15 DAYS</p>		<p>TOTAL</p>	

ALL WORK PERFORMED IS SUBJECT TO THE  
TERMS AND CONDITIONS OF OUR CURRENT  
SCHEDULE OF RATES. LIABILITY IS LIMITED  
TO THE AMOUNT OF THIS INVOICE

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**Columbia Inspection, Inc.**

P.O. Box 83569, St. Johns Station  
Portland, OR 97283-0569  
Koppers001808



# CERTIFICATE OF ANALYSIS

CLIENT: KOPPERS INDUSTRIES, INC.  
7540 NW ST. HELENS ROAD  
PORTLAND OR 97210-3663

PHONE: (503) 286-3681  
FAX: (503) 285-2831

DATE SUBMITTED: 11/12/97

PROJECT NAME: WASTE WATER ANALYSIS

CI SAMPLE #	CLIENTS ID#	DATE	TIME	DESCRIPTION
-------------	-------------	------	------	-------------

971579-001-01		11/12/97	1100	W W TANKS 1-3-5
---------------	--	----------	------	-----------------

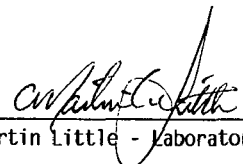
REPORT DATE: 11/18/97

REPORT NUMBER: 971579

PAGE: 1 OF 1

SAMPLE	TEST	PARAMETER	RESULT	UNIT	DETECTION LIMIT	ANALYST
W W TANKS 1-3-5						
	TOTAL PHENOLICS EPA 420.1	TOTAL PHENOLICS	0.07	PPM	0.05	Dick R.

REVIEWED BY:

  
Martin Little - Laboratory Manager

COLUMBIA INSPECTION, INC  
7133 N LOMBARD ST  
P O BOX 83569  
PORTLAND, OR 97283-0569

# MONTHLY REMINDER

DATE

11/19/97

SEND TO

KOPPERS INDUSTRIES, INC  
7540 NW ST HELENS RD  
PORTLAND, OR 97210

AMOUNT DUE

\$152.00

DATE	DESCRIPTION	AMOUNT
09/30/97	Balance forward	222.00
10/02/97	INV #571315 - audit #: 92700544	217.50
10/06/97	INV #571364 - audit #: 92700560	74.00
10/10/97	PMT #281795✓	-74.00
10/22/97	INV #571440 - audit #: 92700580	39.00
10/31/97	INV #571496 - audit #: 92700596	39.00
11/03/97	PMT #285216✓	-74.00
11/07/97	PMT #285730✓	-74.00
11/14/97	PMT #286783✓	-217.50

RECEIVED

NOV 20 1997

KOPPERS INDS., INC.  
PORTLAND, OR

CURRENT	1-30 DAYS PAST DUE	31-60 DAYS PAST DUE	61-90 DAYS PAST DUE	OVER 90 DAYS PAST DUE	AMOUNT DUE
78.00	74.00	0.00	0.00	0.00	\$152.00

Koppers001810

11/19/97

COLUMBIA INSPECTION, INC  
Customer QuickReport  
All Transactions

Type	Date	Num	Due Date	Open Balance	Amount
KOPPERS INDUSTRIES, INC					
Invoice	10/6/97	571364	11/5/97	74.00	74.00
Invoice	10/22/97	571440	11/21/97	39.00	39.00
Invoice	10/31/97	571496	11/30/97	39.00	39.00
Total KOPPERS INDUSTRIES, INC				152.00	152.00
TOTAL				152.00	152.00





# CERTIFICATE OF ANALYSIS

CLIENT: KOPPERS INDUSTRIES, INC.  
7540 NW ST. HELENS ROAD  
PORTLAND OR 97210-3663

PHONE: (503) 286-3681  
FAX: (503) 285-2831

DATE SUBMITTED: 10/29/97

PROJECT NAME: WASTE WATER ANALYSIS

CI SAMPLE #	CLIENTS ID#	DATE	TIME	DESCRIPTION
971496-001-01		10/29/97	1400	WASTE WATER GRAB SAMPLE FROM TANKS 1-3-5

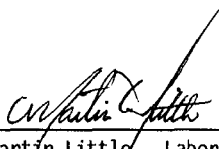
REPORT DATE: 11/03/97

REPORT NUMBER: 971496

PAGE: 1 OF 1

SAMPLE	TEST	PARAMETER	RESULT	UNIT	DETECTION LIMIT	ANALYST
WASTE WATER GRAB SAMPLE FROM TANKS 1-3-5						
	O&G, TOTAL, GRAV EPA 413.1/9070	TOTAL OIL & GREASE	3.2	PPM	2	Gordon L.

REVIEWED BY:

  
Martin Little - Laboratory Manager

Columbia Inspection, Inc. 7133 N Lombard St. - Portland, OR 97203 (503) 286-9464 Fax (503) 286-5355

KI 37W REV 2 6M 6/90

## CIRCLE TERMS ON INVOICE

GIL	DET.	S-DET.	LOC.	DEPT.	TAX	EMP #	MOVE # PO #	AMOUNT	INV #	DATE
305	807		9270	910	0362			39 -	571496	10/31/97
									↓ A/P DEPARTMENT USE ONLY ↓	
									VENDOR NUMBER	014327008
									TERMS. CODE	015 DUE DATE: / /
OK TO PAY						GROSS AMOUNT		39.00	DIVISION	MONTH
									AUDIT NUMBER	

Koppers001812

# Columbia Inspection, Inc.

U.S. CUSTOMS APPROVED GAUGERS  
PETROLEUM AND ENVIRONMENTAL LABORATORY  
TANK CALIBRATIONS

## OFFICES

Portland, OR (503) 286-9464  
Tacoma, WA (206) 922-8781  
Martinez, CA (510) 229-0360  
San Pedro, CA (310) 833-1557

Fed. I.D. 93-0746019

KOPPERS INDUSTRIES, INC.  
AMOS KAMERER  
7540 NW ST. HELENS ROAD  
PORTLAND, OR 97210-3663

INVOICE DATE: 10/31/97

INVOICE NO. 571496

10/30/97	<p>For Services Rendered: REPORT NUMBER: 971496</p> <p>Client's Project Name: WASTE WATER ANALYSIS</p> <p>Date Submitted: 10/29/97</p> <p>Sample Marked: WASTE WATER GRAB SAMPLE FROM TANKS 1-3-5</p> <p>ANALYSIS OF THE WASTE WATER SAMPLE. O&amp;G, TOTAL, GRAV.....QUOTED.... 1 @ \$ 39.00</p> <p>Testing Cost:</p> <p><b>RECEIVED</b> NOV 05 1997 KOPPERS INDS., INC. PORTLAND, OR</p> <p><b>ORIGINAL</b></p> <p>THANK YOU FOR DOING BUSINESS WITH CI.</p>	<p>\$ 39.00</p> <p>-----</p> <p>\$ 39.00</p>	<p>\$ 39.00</p>
<p>TERMS- NET 15 DAYS</p>			<p>TOTAL \$ 39.00</p>

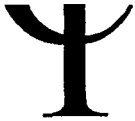
ALL WORK PERFORMED IS SUBJECT TO THE  
TERMS AND CONDITIONS OF OUR CURRENT  
SCHEDULE OF RATES. LIABILITY IS LIMITED  
TO THE AMOUNT OF THIS INVOICE

Please state invoice numbers and remit to:

**Columbia Inspection, Inc.**

P.O. Box 83569, St. Johns Station  
Portland, OR 97283-0569

Koppers001813



CLIENT: KOPPERS INDUSTRIES, INC.  
7540 NW ST. HELENS ROAD  
PORTLAND OR 97210-3663

PHONE: (503) 286-3681  
FAX: (503) 285-2831

DATE SUBMITTED: 10/17/97

PROJECT NAME: WASTE WATER ANALYSIS

CI SAMPLE #	CLIENTS ID#	DATE	TIME	DESCRIPTION
971440-001-01		10/16/97	1600	WASTE WATER TANKS 2-4-6 GRAB SAMPLE

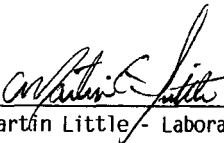
REPORT DATE: 10/21/97

REPORT NUMBER: 971440

PAGE: 1 OF 1

SAMPLE	TEST	PARAMETER	RESULT	UNIT	DETECTION LIMIT	ANALYST
WASTE WATER TANKS 2-4-6 GRAB SAMPLE						
	O&G, TOTAL, GRAV EPA 413.1/9070	TOTAL OIL & GREASE	12	PPM	2	Dick R.

REVIEWED BY:

  
Martin Little - Laboratory Manager

Columbia Inspection, Inc. 7133 N Lombard St. - Portland, OR 97203 (503) 286-9464 Fax (503) 286-5355

KI 37W REV 2 6M 6/90

CIRCLE TERMS ON INVOICE

GIL	DET.	S-DET.	LOC.	DEPT.	TAX	EMP #	MOVE # PO #	AMOUNT	INV #	DATE				
305	807		9270	910	0362			39 -	571440	10/22/97				
									↓ A/P DEPARTMENT USE ONLY ↓					
									VENDOR NUMBER	014327008				
									TERMS. CODE	045	DUE DATE: / /			
									DIVISION	483	MONTH	10	AUDIT NUMBER	92700580
OK TO PAY							GROSS AMOUNT		39.00					
							DISCOUNT \$							
							NET \$							

IMPORTANT: CIRCLE TERMS ON INVOICE

Koppers001814

# Columbia Inspection, Inc.

U.S. CUSTOMS APPROVED GAUGERS  
PETROLEUM AND ENVIRONMENTAL LABORATORY  
TANK CALIBRATIONS

## OFFICES

Portland, OR (503) 286-9464  
Tacoma, WA (206) 922-8781  
Martinez, CA (510) 229-0360  
San Pedro, CA (310) 833-1557

Fed. I.D. 93-0746019

• KOPPERS INDUSTRIES, INC.  
AMOS KAMERER  
7540 NW ST. HELENS ROAD  
PORTLAND, OR 97210-3663

INVOICE DATE: 10/22/97

INVOICE NO. 571440

10/21/97	<p>For Services Rendered: REPORT NUMBER: 971440</p> <p>Client's Project Name: WASTE WATER ANALYSIS</p> <p>Date Submitted: 10/17/97</p> <p>Sample Marked: WASTE WATER TANKS 2-4-6 GRAB SAMPLE</p> <p>ANALYSIS OF THE WASTE WATER SAMPLE. O&amp;G, TOTAL, GRAV*.....QUOTED.... 1 @ \$ 39.00</p> <p>Testing Cost:</p> <p><b>RECEIVED</b></p> <p>OCT 23 1997</p> <p>KOPPERS IND. INC. PORTLAND OR</p> <p>THANK YOU FOR DOING BUSINESS WITH CI.</p>	<p>\$ 39.00</p> <p>-----</p> <p>\$ 39.00</p>	<p>\$ 39.00</p>
TERMS- NET 15 DAYS		TOTAL	\$39.00

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TERMS AND CONDITIONS OF OUR CURRENT  
SCHEDULE OF RATES. LIABILITY IS LIMITED  
TO THE AMOUNT OF THIS INVOICE

Please state invoice numbers and remit to:

**Columbia Inspection, Inc.**

P.O. Box 83569, St. Johns Station  
Portland, OR 97283-0569  
Koppers001815



# CERTIFICATE OF ANALYSIS

CLIENT: KOPPERS INDUSTRIES, INC.  
7540 NW ST. HELENS ROAD  
PORTLAND OR 97210-3663

PHONE: (503) 286-3681  
FAX: (503) 285-2831

DATE SUBMITTED: 10/02/97

PO#:

PROJECT NAME: WASTE WATER ANALYSIS

CI SAMPLE #	CLIENTS ID#	DATE	TIME	DESCRIPTION
971364-001-01		10/01/97	1500	WASTE WATER SAMPLE FROM TANKS 2-4-6
971364-001-02		10/01/97	1500	WASTE WATER SAMPLE FROM TANKS 2-4-6


REPORT DATE: 10/03/97

REPORT NUMBER: 971364

PAGE: 1 OF 1

SAMPLE	TEST	PARAMETER	RESULT	UNIT	DETECTION LIMIT	ANALYST
971364-001-01	O&G, TOTAL, GRAV EPA 413.1/9070	TOTAL OIL & GREASE	2.0	PPM	2	Dick R.
971364-001-02	PHENOLS, TOTAL EPA 420.1	TOTAL RECOVERABLE PHENOLICS	0.09	PPM	0.05	Dick R.

REVIEWED BY:

  
Richard D. Reid - Laboratory Director

U.S. CUSTOMS APPROVED GAUGERS  
PETROLEUM AND ENVIRONMENTAL LABORATORY  
TANK CALIBRATIONS

Portland, OR (503) 286-9464  
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San Pedro, CA (310) 833-1557

KOPPERS INDUSTRIES, INC.  
AMOS KAMERER  
7540 NW ST. HELENS ROAD  
PORTLAND, OR 97210-3663

**INVOICE NO. 571364**

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TO THE AMOUNT OF THIS INVOICE

*Columbia Inspection, Inc.*

P.O. Box 83569, St. Johns Station  
Portland, OR 97283-0569  
Koppers001817



PHONE: (503) 286-3681  
FAX: (503) 285-2831

PO#:

PROJECT NAME: WASTE WATER ANALYSIS

CI SAMPLE #	CLIENTS ID#	DATE	TIME	DESCRIPTION
971315-001-01		09/23/97	1300	TANKS 1,3,5 WASTE WATER SAMPLE

PAGE: 1 OF 1

SAMPLE	TEST	PARAMETER	RESULT	UNIT	DETECTION LIMIT	ANALYST
971315-001-01	PNAH 2	ACENAPHTHENE	ND	PPM	0.0005	*
	EPA 625 (SIM)	ACENAPHTHYLENE	ND	PPM	0.0005	
		ANTHRACENE	ND	PPM	0.0004	
		BENZO(A)ANTHRACENE	0.0012	PPM	0.00001	
		BENZO(A)PYRENE	0.0025	PPM	0.00001	
		BENZO(B)FLUORANTHENE	0.0025	PPM	0.00004	
		BENZO(GHI)PERYLENE	0.0020	PPM	0.00002	
		BENZO(K)FLUORANTHENE	0.00087	PPM	0.00001	
		CHRYSENE	ND	PPM	0.0001	
		DIBENZO(AH)ANTHRACENE	0.00063	PPM	0.00002	
		FLUORANTHENE	0.0037	PPM	0.0002	
		FLUORENE	0.0012	PPM	0.0002	
		INDENO(1,2,3-CD)PYRENE	ND	PPM	0.00002	
		NAPHTHALENE	ND	PPM	0.001	
		PHENANTHRENE	ND	PPM	0.0002	
		PYRENE	ND	PPM	0.0001	


### Acceptable Recovery

Richard D. Reid - Laboratory Director

COPY

**Columbia Inspection, Inc. 7133 N Lombard St. - Portland, OR 97203 (503) 286-9464 Fax (503) 286-5355**

CIRCLE TERMS ON INVOICE

GIL	DET.	S-DET.	LOC.	DEPT.	TAX	EMP #	MOVE # PO #	AMOUNT	CIRCLE TERMS ON INVOICE	
305	807		9270	910	0362			218 -	INV # 571315	DATE 10/02/97
									<div style="text-align: center;">↓ A/P DEPARTMENT USE ONLY ↓</div>	
									VENDOR NUMBER	014327008
									TERMS CODE	045
									DUE DATE: / /	
OK TO PAY 							GROSS AMOUNT		217.50	
							DISCOUNT			
							DIVISION		MONTH	AUDIT NUMBER

Koppers001818

# Columbia Inspection, Inc.

U.S. CUSTOMS APPROVED GAUGERS  
PETROLEUM AND ENVIRONMENTAL LABORATORY  
TANK CALIBRATIONS

## OFFICES

Portland, OR (503) 286-9464  
Tacoma, WA (206) 922-8781  
Martinez, CA (510) 229-0360  
San Pedro, CA (310) 833-1557

Fed. I.D. 93-0746019

KOPPERS INDUSTRIES, INC.  
AMOS KAMERER  
7540 NW ST. HELENS ROAD  
PORTLAND, OR 97210-3663

INVOICE DATE: 10/02/97

INVOICE NO. 571315

10/02/97	For Services Rendered: REPORT NUMBER: 971315		
	Client's Project Name: WASTE WATER ANALYSIS		
	Date Submitted: 09/23/97		
	Sample Marked: TANKS 1,3,5 WASTE WATER SAMPLE		
	ANALYSIS OF THE WASTE WATER SAMPLE.		
	PNAH 2.....QUOTED.... 1 @ \$ 145.00	\$ 145.00	
		-----	
	RUSH CHARGE	\$ 72.50	\$ 72.50
	Testing Cost:	\$ 217.50	\$ 217.50
	THANK YOU FOR DOING BUSINESS WITH CI.		
TERMS- NET 15 DAYS		TOTAL	\$ 217.50

ALL WORK PERFORMED IS SUBJECT TO THE  
TERMS AND CONDITIONS OF OUR CURRENT  
SCHEDULE OF RATES. LIABILITY IS LIMITED  
TO THE AMOUNT OF THIS INVOICE

Please state invoice numbers and remit to:

*Columbia Inspection, Inc.*

P.O. Box 83569, St. Johns Station  
Portland, OR 97283-0569  
Koppers001819





# CERTIFICATE OF ANALYSIS

CLIENT: KOPPERS INDUSTRIES, INC.  
7540 NW ST. HELENS ROAD  
PORTLAND OR 97210-3663

PHONE: (503) 286-3681  
FAX: (503) 285-2831

DATE SUBMITTED: 09/19/97

PO#:

PROJECT NAME: WW Tks 1-3-5

CI SAMPLE # CLIENTS ID# DATE TIME DESCRIPTION

971296-001-01 09/19/97 1200 Wastewater Grab - Tanks 1--3-5

REPORT DATE: 09/23/97

REPORT NUMBER: 971296

PAGE: 1 OF 1

SAMPLE	TEST	PARAMETER	RESULT	UNIT	DETECTION LIMIT	ANALYST
971296-001-01	O&G, TOTAL, GRAV EPA 413.1/9070	TOTAL OIL & GREASE	2	PPM	2	Gordon L.
971296-001-01	PHENOLS, TOTAL EPA 420.1	TOTAL RECOVERABLE PHENOLICS	0.09	PPM	0.05	Dick R.

REVIEWED BY:

Richard D. Reid - Laboratory Director

ORIGINAL

Columbia Inspection, Inc. 7133 N Lombard St. - Portland, OR 97203 (503) 286-9464 Fax (503) 286-5355

KI 37W REV 2 6M 6/90

CIRCLE TERMS ON INVOICE

GIL	DET.	S-DET.	LOC.	DEPT.	TAX	EMP #	MOVE # PO #	AMOUNT	INV #	DATE	
305	007		9270	910	0362			74 00	571296	9/23/97	
									↓ A/P DEPARTMENT USE ONLY ↓		
									VENDOR NUMBER	014327008	
									TERMS. CODE	045	DUE DATE: / /
									DIVISION	MONTH	AUDIT NUMBER
OK TO PAY							GROSS AMOUNT		74 00		

Koppers001820

# Columbia Inspection, Inc.

U.S. CUSTOMS APPROVED GAUGERS  
PETROLEUM AND ENVIRONMENTAL LABORATORY  
TANK CALIBRATIONS

## OFFICES

Portland, OR (503) 286-9464  
Tacoma, WA (206) 922-8781  
Martinez, CA (510) 229-0360  
San Pedro, CA (310) 833-1557

Fed. I.D. 93-0746019

KOPPERS INDUSTRIES, INC.  
AMOS KAMERER  
7540 NW ST. HELENS ROAD  
PORTLAND, OR 97210-3663

INVOICE DATE: 09/23/97

INVOICE NO. 571296

09/23/97	<p>For Services Rendered: REPORT NUMBER: 971296</p> <p>Client's Project Name: WW Tks 1-3-5</p> <p>Date Submitted: 09/19/97</p> <p>Sample Marked: Wastewater Grab - Tanks 1--3-5</p> <p>ANALYSIS OF THE WASTE WATER SAMPLE.</p> <p>O&amp;G, TOTAL, GRAV*.....QUOTED.... 1 @ \$ 39.00</p> <p>PHENOLS, TOTAL*.....QUOTED.... 1 @ \$ 35.00</p> <p>Testing Cost:</p>	<p>\$ 39.00</p> <p>\$ 35.00</p> <p>-----</p> <p>\$ 74.00</p>	<p>\$ 74.00</p>
<p>RECEIVED</p> <p>SEP 24 1997</p> <p>KOPPERS INDS., INC.</p> <p>PORTLAND, OR</p> <p>THANK YOU FOR DOING BUSINESS WITH CI.</p>			
TERMS- NET 15 DAYS		TOTAL	\$ 74.00

ALL WORK PERFORMED IS SUBJECT TO THE  
TERMS AND CONDITIONS OF OUR CURRENT  
SCHEDULE OF RATES. LIABILITY IS LIMITED  
TO THE AMOUNT OF THIS INVOICE

Please state invoice numbers and remit to:

**Columbia Inspection, Inc.**

P.O. Box 83569, St. Johns Station  
Portland, OR 97283-0569

Koppers001821




PHONE: (503) 286-3681  
FAX: (503) 285-2831

PO#:

PROJECT NAME: WW Tks 2,4,6

REPORT DATE: 09/22/97                      REPORT NUMBER: 971287                      PAGE: 1 OF 1

SAMPLE	TEST	PARAMETER	RESULT	UNIT	DETECTION LIMIT	ANALYST
971287-001-01	O&G, TOTAL, GRAV EPA 413.1/9070	TOTAL OIL & GREASE	3.7	PPM	2	Gordon L.
971287-001-02	PHENOLS, TOTAL EPA 420.1	TOTAL RECOVERABLE PHENOLICS	0.10	PPM	0.05	Dick R.

  
Richard D. Reid - Laboratory Director

ORIGINAL

**Columbia Inspection, Inc. 7133 N Lombard St. - Portland, OR 97203 (503) 286-9464 Fax (503) 286-5355**

**CIRCLE TERMS ON INVOICE**

CIRCLE TERMS ON INVOICE									
GIL	DET.	S-DET.	LOC.	DEPT.	TAX	EMP #	MOVE # PO #	AMOUNT	
305	807		9270	910	0362			74 -	
						GROSS AMOUNT		74 00	

INV # 571287

DATE 9/22/97

↓ A/P DEPARTMENT USE ONLY ↓

VENDOR NUMBER	0	1	4	3	2	7	0	0	8
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TERMS CODE 045 DUE DATE: / /

DIVISION	MONTH	AUDIT NUMBER
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OK TO PAY

Koppers001822

# Columbia Inspection, Inc.

U.S. CUSTOMS APPROVED GAUGERS  
PETROLEUM AND ENVIRONMENTAL LABORATORY  
TANK CALIBRATIONS

## OFFICES

Portland, OR (503) 286-9464  
Tacoma, WA (206) 922-8781  
Martinez, CA (510) 229-0360  
San Pedro, CA (310) 833-1557

Fed. I.D. 93-0746019

KOPPERS INDUSTRIES, INC.  
AMOS KAMERER  
7540 NW ST. HELENS ROAD  
PORTLAND, OR 97210-3663

INVOICE DATE: 09/23/97

INVOICE NO. 571287

09/22/97	<p>For Services Rendered: REPORT NUMBER: 971287</p> <p>Client's Project Name: WW Tks 2,4,6</p> <p>Date Submitted: 09/18/97</p> <table><thead><tr><th>CI SAMPLE #</th><th>CLIENTS ID#</th><th>DESCRIPTION</th></tr></thead><tbody><tr><td>971287-001-01</td><td></td><td>Wastewater Grab from Tanks 2-4-6</td></tr><tr><td>971287-001-02</td><td></td><td>Wastewater Grab from Tanks 2-4-6</td></tr></tbody></table> <p>ANALYSIS OF THE WASTE WATER SAMPLES.</p> <table><tbody><tr><td>O&amp;G, TOTAL, GRAV*.....QUOTED....</td><td>1 @ \$ 39.00</td><td>\$ 39.00</td></tr><tr><td>PHENOLS, TOTAL*.....QUOTED....</td><td>1 @ \$ 35.00</td><td>\$ 35.00</td></tr><tr><td colspan="2">Testing Cost:</td><td>\$ 74.00</td></tr></tbody></table> <p><b>RECEIVED</b></p> <p>SEP 24 1997</p> <p>KOPPERS INDS., INC. PORTLAND, OR</p> <p>THANK YOU FOR DOING BUSINESS WITH CI.</p>	CI SAMPLE #	CLIENTS ID#	DESCRIPTION	971287-001-01		Wastewater Grab from Tanks 2-4-6	971287-001-02		Wastewater Grab from Tanks 2-4-6	O&G, TOTAL, GRAV*.....QUOTED....	1 @ \$ 39.00	\$ 39.00	PHENOLS, TOTAL*.....QUOTED....	1 @ \$ 35.00	\$ 35.00	Testing Cost:		\$ 74.00		
CI SAMPLE #	CLIENTS ID#	DESCRIPTION																			
971287-001-01		Wastewater Grab from Tanks 2-4-6																			
971287-001-02		Wastewater Grab from Tanks 2-4-6																			
O&G, TOTAL, GRAV*.....QUOTED....	1 @ \$ 39.00	\$ 39.00																			
PHENOLS, TOTAL*.....QUOTED....	1 @ \$ 35.00	\$ 35.00																			
Testing Cost:		\$ 74.00																			
TERMS- NET 15 DAYS		TOTAL	\$ 74.00																		

ALL WORK PERFORMED IS SUBJECT TO THE  
TERMS AND CONDITIONS OF OUR CURRENT  
SCHEDULE OF RATES. LIABILITY IS LIMITED  
TO THE AMOUNT OF THIS INVOICE

Please state invoice numbers and remit to:

**Columbia Inspection, Inc.**

P.O. Box 83569, St. Johns Station

Portland, OR 97203-0569

Koppers001823

COLUMBIA INSPECTION INC  
7133 N LOMBARD ST  
P.O. BOX 83569  
PORTLAND, OR 97283-0569

# MONTHLY REMINDER

DATE

6/30/97

SEND TO  
KOPPERS INDUSTRIES, INC.  
1540 NW STELLER DR  
PORTLAND, OR 97209

AMOUNT DUE

\$1,113.00

DATE	DESCRIPTION	AMOUNT
06/01/97	Balance forward	100.00
06/02/97	PMT #202418	498.00
06/09/97	PMT #203904 STOKES	14.00
06/10/97	PMT #200771	74.00
06/15/97	PMT #264813	7.00
06/17/97	INV #570735	1,015.00
06/20/97	PMT #265864	74.00
06/30/97	PMT #266834	117.00

RECEIVED

JUL 10 1997

KOPPERS INDS., INC.  
PORTLAND, OR

CURRENT	1-30 DAYS PAST DUE	31-60 DAYS PAST DUE	61-90 DAYS PAST DUE	OVER 90 DAYS PAST DUE	TOTAL DUE
1,000.00	74.00	14.00	74.00	117.00	\$1,269.00

# Columbia Inspection, Inc.

U.S. CUSTOMS APPROVED GAUGERS  
PETROLEUM AND ENVIRONMENTAL LABORATORY  
TANK CALIBRATIONS

## OFFICES

Portland, OR (503) 286-9464  
Tacoma, WA (206) 922-8781  
Martinez, CA (510) 229-0360  
San Pedro, CA (310) 833-1557

Fed. I.D. 93-0746019

KOPPERS INDUSTRIES, INC.  
AMOS KAMERER  
7540 NW ST. HELENS ROAD  
PORTLAND, OR 97210-3663

INVOICE DATE: 08/29/97

INVOICE NO. 571166

08/29/97	For Services Rendered: REPORT NUMBER: 971166			
	Client's Project Name: WWTks 1,3,5			
	Date Submitted: 08/28/97			
	CI SAMPLE #	CLIENTS ID#	DESCRIPTION	
	971166-001-01	WW 1,3,5	WWTks 1,3,5 Wastewater Grab	
	971166-001-02	WW 1,3,5	WWTks 1,3,5 Wastewater Grab	
	ANALYSIS OF THE WASTE WATER SAMPLES.			
	O&G, TOTAL, GRAV*.....QUOTED.... 1 @ \$ 39.00			\$ 39.00
	TOTAL PHENOLICS*..... 1 @ \$ 35.00			\$ 35.00
	Testing Cost:			\$ 74.00
				\$ 74.00
<b>RECEIVED</b> SEP 02 1997 KOPPERS INDS., INC. PORTLAND, OR				
THANK YOU FOR DOING BUSINESS WITH CI.				
TERMS- NET 15 DAYS				TOTAL \$ 74.00

ALL WORK PERFORMED IS SUBJECT TO THE  
TERMS AND CONDITIONS OF OUR CURRENT  
SCHEDULE OF RATES. LIABILITY IS LIMITED  
TO THE AMOUNT OF THIS INVOICE

Please state invoice numbers and remit to:

**Columbia Inspection, Inc.**

P.O. Box 83569, St. Johns Station  
Portland, OR 97283-0569

CIRCLE TERMS ON INVOICE

KI 37W REV 2 6M 6/90

GIL	DET.	S-DET.	LOC.	DEPT.	TAX	EMP #	MOVE # PO #	AMOUNT	INV #	DATE	
305	807		9270	910	0362			74.00	571166	8/29/97	
									↓ A/P DEPARTMENT USE ONLY ↓		
									VENDOR NUMBER	014327008	
									TERMS, CODE	045	DUE DATE: / /
									DIVISION	MONTH	AUDIT NUMBER
OK TO PAY									GROSS AMOUNT 74.00		

Koppers001825



# CERTIFICATE OF ANALYSIS

CLIENT: KOPPERS INDUSTRIES, INC.  
7540 NW ST. HELENS ROAD  
PORTLAND OR 97210-3663

PHONE: (503) 286-3681  
FAX: (503) 285-2831

DATE SUBMITTED: 08/28/97

PO#:

PROJECT NAME: WWTks 1,3,5

CI SAMPLE #	CLIENTS ID#	DATE	TIME	DESCRIPTION
971166-001-01	WW 1,3,5	08/28/97	1105	WWTks 1,3,5 Wastewater Grab
971166-001-02	WW 1,3,5	08/28/97	1105	WWTks 1,3,5 Wastewater Grab

REPORT DATE: 08/29/97

REPORT NUMBER: 971166

PAGE: 1 OF 1

SAMPLE	TEST	PARAMETER	RESULT	UNIT	DETECTION LIMIT	ANALYST
971166-001-01	O&G. TOTAL, GRAV EPA 413.1/9070	TOTAL OIL & GREASE	7.7	PPM	2	Gordon L.
971166-001-02	TOTAL PHENOLICS EPA 420.1	TOTAL PHENOLICS	ND	PPM	0.05	Dick R.

REVIEWED BY:

Richard D. Reid - Laboratory Director

**Columbia Inspection, Inc.**  
U.S. CUSTOMS APPROVED GAUGERS  
PETROLEUM AND ENVIRONMENTAL LABORATORY  
TANK CALIBRATIONS

OFFICES

Portland, OR (503) 286-9464  
Tacoma, WA (206) 922-8781  
Martinez, CA (510) 229-0360  
San Pedro, CA (310) 833-1557

Fed. I.D. 93-0746019

KOPPERS INDUSTRIES, INC.  
AMOS KAMERER  
7540 NW ST. HELENS ROAD  
PORTLAND, OR 97210-3663

INVOICE DATE: 07/31/97

INVOICE NO. 571005

07/31/97	For Services Rendered: REPORT NUMBER: 971005		
	Client's Project Name: NPDES Permit Renewal		
	Date Submitted: 07/22/97		
	CI SAMPLE #	CLIENTS ID#	DESCRIPTION
	971005-001-01		WW Tanks 2,4,6
	971005-001-02		WW Tanks 2,4,6
	971005-001-03		WW Tanks 2,4,6
	971005-001-04		WW Tanks 2,4,6
	971005-001-05		WW Tanks 2,4,6
	971005-001-06		WW Tanks 2,4,6
	971005-001-07		WW Tanks 2,4,6
	971005-001-08		WW Tanks 2,4,6
	971005-001-09		WW Tanks 2,4,6
	ANALYSIS OF THE WASTE WATER SAMPLES.		
	ALUMINUM - ICP.....	1 @ \$	8.00
	AMMONIA.....	1 @ \$	20.00
	ANTIMONY - ICP.....	1 @ \$	8.00
	ARSENIC - ICP.....	1 @ \$	8.00
	BARIUM - ICP.....	1 @ \$	8.00
	BERYLLIUM - ICP.....	1 @ \$	8.00
	BOD.....	1 @ \$	35.00
	BORON.....	1 @ \$	15.00
	BROMIDE.....	1 @ \$	25.00
	CADMIUM - ICP.....	1 @ \$	8.00
	CHROMIUM - ICP.....	1 @ \$	8.00
	COBALT - ICP.....	1 @ \$	8.00
	COD.....	1 @ \$	20.00
	COLOR - EPA.....	1 @ \$	20.00
	COPPER - ICP.....	1 @ \$	8.00
	CYANIDE, TOTAL.....	1 @ \$	45.00
TERMS- NET 15 DAYS		TOTAL	Cont.

RECEIVED

AUG 06 1997

KOPPERS INDS., INC.  
PORTLAND, OR

ALL WORK PERFORMED IS SUBJECT TO THE  
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Please state invoice numbers and remit to:

**Columbia Inspection, Inc.**

P.O. Box 83569, St. Johns Station  
CIRCLE TERMS ON INVOICE

GIL	DET.	S-DET.	LOC.	DEPT.	TAX	EMP #	MOVE # PO #	AMOUNT	INV #	DATE
305	807		9270	910	0362			735.00	571005	07/31/97
									↓ A/P DEPARTMENT USE ONLY ↓	
									VENDOR NUMBER	014327008
									TERMS CODE	045
									DUE DATE:	/ /
									DIVISION	MONTH
									AUDIT NUMBER	
OK TO PAY <i>Linda Johnson</i>									GROSS AMOUNT	735.00
									DISCOUNT \$	

Koppers001827



# Columbia Inspection, Inc.

U.S. CUSTOMS APPROVED GAUGERS  
PETROLEUM AND ENVIRONMENTAL LABORATORY  
TANK CALIBRATIONS

## OFFICES

Portland, OR (503) 286-9464  
Tacoma, WA (206) 922-8781  
Martinez, CA (510) 229-0360  
San Pedro, CA (310) 833-1557

Fed. I.D. 93-0746019

KOPPERS INDUSTRIES, INC.  
AMOS KAERER  
7540 NW ST. HELENS ROAD  
PORTLAND, OR 97210-3663

JULY 31, 1997

INVOICE NO. 571005

	DIGESTION - 3010.....	1 @ \$ 15.00	\$ 15.00	
	FECAL COLIFORM.....	1 @ \$ 25.00	\$ 25.00	
	FLUORIDE.....	1 @ \$ 20.00	\$ 20.00	
	IRON - ICP.....	1 @ \$ 8.00	\$ 8.00	
	LEAD - ICP.....	1 @ \$ 8.00	\$ 8.00	
	MAGNESIUM - ICP.....	1 @ \$ 8.00	\$ 8.00	
	MANGANESE - ICP.....	1 @ \$ 8.00	\$ 8.00	
	MERCURY - CVAA.....	1 @ \$ 30.00	\$ 30.00	
	MOLYBDENUM - ICP.....	1 @ \$ 8.00	\$ 8.00	
	NICKEL - ICP.....	1 @ \$ 8.00	\$ 8.00	
	NITRATE.....	1 @ \$ 20.00	\$ 20.00	
	O & G TOTAL GRAV.....	1 @ \$ 45.00	\$ 45.00	
	PH.....	1 @ \$ 10.00	\$ 10.00	
	PHENOLS, TOTAL.....QUOTED....	1 @ \$ 35.00	\$ 35.00	
	PHOSPHORUS TOTAL.....	1 @ \$ 25.00	\$ 25.00	
	RESIDUAL CHLORINE 1.....	1 @ \$ 15.00	\$ 15.00	
	SELENIUM - ICP.....	1 @ \$ 8.00	\$ 8.00	
	SILVER - ICP.....	1 @ \$ 8.00	\$ 8.00	
	SULFATE, TURBID.....	1 @ \$ 20.00	\$ 20.00	
	SULFIDES.....	1 @ \$ 20.00	\$ 20.00	
	SULFITE.....	1 @ \$ 20.00	\$ 20.00	
	SURFACTANTS (MBAS).....	1 @ \$ 40.00	\$ 40.00	
	SUSPENDED SOLIDS.....	1 @ \$ 15.00	\$ 15.00	
	THALLIUM - ICP.....	1 @ \$ 8.00	\$ 8.00	
	TIN - ICP.....	1 @ \$ 8.00	\$ 8.00	
	TITANIUM - GFAA.....	1 @ \$ 20.00	\$ 20.00	
	TKN.....	1 @ \$ 30.00	\$ 30.00	
	TOC.....	1 @ \$ 35.00	\$ 35.00	
	ZINC - ICP.....	1 @ \$ 8.00	\$ 8.00	
	Testing Cost:		\$ 735.00	\$ 735.00
THANK YOU FOR DOING BUSINESS WITH CI.				
TERMS- NET 15 DAYS			TOTAL	\$ 735.00

ALL WORK PERFORMED IS SUBJECT TO THE  
TERMS AND CONDITIONS OF OUR CURRENT  
SCHEDULE OF RATES. LIABILITY IS LIMITED  
TO THE AMOUNT OF THIS INVOICE

Please state invoice numbers and remit to:

*Columbia Inspection, Inc.*

P.O. Box 83569, St. Johns Station  
Koppers001828



# CERTIFICATE OF ANALYSIS

CLIENT: KOPPERS INDUSTRIES, INC.  
7540 NW ST. HELENS ROAD  
PORTLAND OR 97210-3663

PHONE: (503) 286-3681  
FAX: (503) 285-2831

DATE SUBMITTED: 07/22/97

PO#:

PROJECT NAME: NPDES Permit Renewal


CI SAMPLE #	CLIENTS ID#	DATE	TIME	DESCRIPTION
971005-001-01		07/22/97	1430	WW Tanks 2,4,6
971005-001-02		07/22/97	1430	WW Tanks 2,4,6
971005-001-03		07/22/97	1430	WW Tanks 2,4,6
971005-001-04		07/22/97	1430	WW Tanks 2,4,6
971005-001-05		07/22/97	1430	WW Tanks 2,4,6
971005-001-06		07/22/97	1430	WW Tanks 2,4,6
971005-001-07		07/22/97	1430	WW Tanks 2,4,6
971005-001-08		07/22/97	1430	WW Tanks 2,4,6
971005-001-09		07/22/97	1430	WW Tanks 2,4,6

REPORT DATE: 07/31/97

REPORT NUMBER: 971005

PAGE: 1 OF 4

SAMPLE	TEST	PARAMETER	RESULT	UNIT	DETECTION LIMIT	ANALYST
971005-001-01	BOD EPA 405.1	5-DAY BOD TEST	6	mg/L	5	Jacob F.
971005-001-01	BROMIDE EPA 300.08	BROMIDE	ND	mg/L	0.01	CLI
971005-001-01	COLOR - EPA EPA 110.2	COLOR	20	COLOR UNIT	5	Dick R.
971005-001-02	FECAL COLIFORM SM 9222 D	FECAL COLIFORM	ND	/100 m		Dick R.

REVIEWED BY:   
Richard D. Reid - Laboratory Director

# CERTIFICATE OF ANALYSIS

REPORT DATE: 07/31/97

REPORT NUMBER: 971005

PAGE: 2 OF 4

SAMPLE	TEST	PARAMETER	RESULT	UNIT	DETECTION LIMIT	ANALYST
971005-001-01	FLUORIDE EPA 340.2	FLUORIDE	0.2	PPM	0.2	Jacob F.
971005-001-01	NITRATE SM 4500-NO3 D	NITRATE AS NO3-N	ND	PPM	1	Jacob F.
971005-001-01	PH EPA 150.1	pH	6.83			Dick R.
971005-001-01	RESIDUAL CHLORINE 1 EPA 330.4	RESIDUAL CHLORINE	ND	mg/L	0.05	Dick R.
971005-001-01	SULFATE, TURBID. EPA 375.4	SULFATE	7.3	PPM	5	Dick R.
971005-001-01	SULFITE EPA 377.1	SULFITE	ND	PPM	1	Dick R.
971005-001-01	SURFACTANTS (MBAS) SM 5540 C	MBAS, CALCULATED AS LAS	0.28	mg LAS/L	0.02 mg	Dick R.
971005-001-01	SUSPENDED SOLIDS EPA 160.2	TOTAL SUSPENDED SOLIDS	ND	PPM	1	Gordon L.
971005-001-03	AMMONIA EPA 350.3	AMMONIA AS NH3-N	ND	PPM	1	Dick R.
971005-001-03	COD EPA 410.4	CHEMICAL OXYGEN DEMAND	9	PPM	5	Dick R.
971005-001-03	PHOSPHORUS, TOTAL EPA 365.2	TOTAL PHOSPHORUS	0.60	PPM	0.01	Dick R.
971005-001-03	TKN SM 4500-N	TOTAL KJELDAHL NITROGEN	ND	MG/L	1	Dick R.
971005-001-03	TOC EPA 415.1	TOTAL ORGANIC CARBON	7.3	PPM	0.5	Jacob F.
971005-001-04	O & G TOTAL, GRAV. SM 5520 B	TOTAL OIL & GREASE	ND	PPM	2	Gordon L.

# CERTIFICATE OF ANALYSIS

REPORT DATE: 07/31/97

REPORT NUMBER: 971005

PAGE: 3 OF 4

SAMPLE	TEST	PARAMETER	RESULT	UNIT	DETECTION LIMIT	ANALYST
971005-001-06	ALUMINUM - ICP EPA 200.7/6010	TOTAL ALUMINUM	ND	PPM	0.02	Eleanor T.
971005-001-06	ANTIMONY - ICP EPA 200.7/6010	TOTAL ANTIMONY	ND	PPM	0.1	Eleanor T.
971005-001-06	ARSENIC - ICP EPA 200.7/6010	TOTAL ARSENIC	ND	PPM	0.1	Eleanor T.
971005-001-06	BARIUM - ICP EPA 200.7/6010	TOTAL BARIUM	ND	PPM	0.02	Eleanor T.
971005-001-06	BERYLLIUM - ICP EPA 200.7/6010	TOTAL BERYLLIUM	ND	PPM	0.01	Eleanor T.
971005-001-06	BORON EPA 200.7/6010	BORON	ND	PPM	0.01	Eleanor T.
971005-001-06	CADMIUM - ICP EPA 200.7/6010	TOTAL CADMIUM	ND	PPM	0.01	Eleanor T.
971005-001-06	CHROMIUM - ICP EPA 200.7/6010	TOTAL CHROMIUM	ND	PPM	0.02	Eleanor T.
971005-001-06	COBALT - ICP EPA 200.7/6010	TOTAL COBALT	ND	PPM	0.03	Eleanor T.
971005-001-06	COPPER - ICP EPA 200.7/6010	TOTAL COPPER	ND	PPM	0.01	Eleanor T.
971005-001-06	IRON - ICP EPA 200.7/6010	TOTAL IRON	1.0	PPM	0.02	Eleanor T.
971005-001-06	LEAD - ICP EPA 200.7/6010	TOTAL LEAD	ND	PPM	0.06	Eleanor T.
971005-001-06	MAGNESIUM - ICP EPA 200.7/6010	TOTAL MAGNESIUM	5.2	PPM	0.01	Eleanor T.
971005-001-06	MANGANESE - ICP EPA 200.7/6010	TOTAL MANGANESE	1.0	PPM	0.01	Eleanor T.

# CERTIFICATE OF ANALYSIS

REPORT DATE: 07/31/97

REPORT NUMBER: 971005

PAGE: 4 OF 4

SAMPLE	TEST	PARAMETER	RESULT	UNIT	DETECTION LIMIT	ANALYST
971005-001-06	MERCURY - CVAA EPA 245.1/7470	TOTAL MERCURY	ND	PPM	0.0003	Eleanor T.
971005-001-06	MOLYBDENUM - ICP EPA 200.7/6010	TOTAL MOLYBDENUM	ND	PPM	0.02	Eleanor T.
971005-001-06	NICKEL - ICP EPA 200.7/6010	TOTAL NICKEL	ND	PPM	0.03	Eleanor T.
971005-001-06	SELENIUM - ICP EPA 200.7/6010	TOTAL SELENIUM	ND	PPM	0.14	Eleanor T.
971005-001-06	SILVER - ICP EPA 200.7/6010	TOTAL SILVER	ND	PPM	0.1	Eleanor T.
971005-001-06	THALLIUM - ICP EPA 200.7/6010	TOTAL THALLIUM	ND	PPM	0.3	Eleanor T.
971005-001-06	TIN - ICP EPA 200.7/6010	TOTAL TIN	ND	PPM	0.07	Eleanor T.
971005-001-06	TITANIUM - GFAA EPA 283.2	TITANIUM	ND	PPM	0.002	Eleanor T.
971005-001-06	ZINC - ICP EPA 200.7/6010	TOTAL ZINC	ND	PPM	0.02	Eleanor T.
971005-001-07	CYANIDE, TOTAL EPA 335.2	TOTAL CYANIDE	ND	PPM	0.01	CLI
971005-001-08	PHENOLS, TOTAL EPA 420.1	TOTAL RECOVERABLE PHENOLICS	0.16	PPM	0.05	Dick R.
971005-001-09	SULFIDES EPA 376.2	SULFIDES	ND	PPM	0.1	Dick R.

# Columbia Inspection, Inc.

U.S. CUSTOMS APPROVED GAUGERS  
PETROLEUM AND ENVIRONMENTAL LABORATORY  
TANK CALIBRATIONS

## OFFICES

Portland, OR (503) 286-9464  
Tacoma, WA (206) 922-8781  
Martinez, CA (510) 229-0360  
San Pedro, CA (310) 833-1557

Fed. I.D. 93-0746019

KOPPERS INDUSTRIES, INC.  
AMOS KAMERER  
7540 NW ST. HELENS ROAD  
PORTLAND, OR 97210-3663

INVOICE DATE: 07/09/97

INVOICE NO. 570894

07/08/97	For Services Rendered: REPORT NUMBER: 970894		
	Client's Project Name: Permit Reapplication Test		
	Date Submitted: 06/30/97		
	CI SAMPLE # CLIENTS ID# DESCRIPTION		
	970894-001-01 WW Tks 2,4,6		
	970894-001-02 WW Tks 2,4,6		
	ANALYSIS OF THE WASTE WATER SAMPLES.		
	B/N/A SEMIVOLS 2..... 1 @ \$ 300.00	\$ 300.00	
	VOLATILE ORGANICS 1..... 1 @ \$ 200.00	\$ 200.00	
	Testing Cost:	\$ 500.00	\$ 500.00
<b>RECEIVED</b>  JUL 10 1997  KOPPERS INDS., INC. PORTLAND, OR  THANK YOU FOR DOING BUSINESS WITH CI.			
TERMS- NET 15 DAYS		TOTAL	\$ 500.00

ALL WORK PERFORMED IS SUBJECT TO THE  
TERMS AND CONDITIONS OF OUR CURRENT  
SCHEDULE OF RATES. LIABILITY IS LIMITED  
TO THE AMOUNT OF THIS INVOICE

Please state invoice numbers and remit to:

**Columbia Inspection, Inc.**

P.O. Box 83569, St. Johns Station  
Portland, OR 97283-0569

KI 37W REV 2 6M 6/90

## CIRCLE TERMS ON INVOICE

GIL	DET.	S-DET.	LOC.	DEPT.	TAX	EMP #	MOVE # PO #	AMOUNT	INV #	DATE				
305	807		9270	910	0362			500 -	570894	7/9/97				
									↓ A/P DEPARTMENT USE ONLY ↓					
									VENDOR NUMBER	014327008				
									TERMS. CODE	045	DUE DATE: / /			
									DIVISION	483	MONTH	7	AUDIT NUMBER	92700416
OK TO PAY									GROSS AMOUNT		500 -			
									DISCOUNT \$					
									NET \$					

IMPORTANT: CIRCLE TERMS ON INVOICE

Koppers001833



# CERTIFICATE OF ANALYSIS

CLIENT: KOPPERS INDUSTRIES, INC.  
7540 NW ST. HELENS ROAD  
PORTLAND OR 97210-3663

PHONE: (503) 286-3681  
FAX: (503) 285-2831

DATE SUBMITTED: 06/30/97

PO#:

PROJECT NAME: Permit Reapplication Test

CI SAMPLE #	CLIENTS ID#	DATE	TIME	DESCRIPTION
970894-001-01		06/30/97	1130	WW Tks 2,4,6
970894-001-02		06/30/97	1130	WW Tks 2,4,6

REPORT DATE: 07/09/97

REPORT NUMBER: 970894

PAGE: 1 OF 5

SAMPLE	TEST	PARAMETER	RESULT	UNIT	DETECTION LIMIT	ANALYST
970894-001-01	B/N/A SEMIVOLS 2 EPA 625	ACID EXTRACTIBLES				Jacob F.
		2-CHLOROPHENOL	ND	PPM	0.005	
		4-CHLORO-3-METHYLPHENOL	ND	PPM	0.005	
		2,4-DICHLOROPHENOL	ND	PPM	0.005	
		2,4-DIMETHYLPHENOL	ND	PPM	0.005	
		2,4-DINITROPHENOL	ND	PPM	0.050	
		2-NITROPHENOL	ND	PPM	0.005	
		4-NITROPHENOL	ND	PPM	0.050	
		PHENOL	ND	PPM	0.005	
		PENTRACHLOROPHENOL	ND	PPM	0.025	
		2,4,6-TRICHLOROPHENOL	ND	PPM	0.005	
		4,6-DINITRO-2-METHYLPHENOL	ND	PPM	0.025	
		SURROGATE 1	OBSCURED	% RECOVERY	50%-150%	
		SURROGATE 2	85%	% RECOVERY	50%-150%	
		B/N EXTRACTABLES				
		ACENAPHTHENE	0.006	PPM	0.005	

REVIEWED BY:

Richard D. Reid - Laboratory Director

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JUL 10 1997

KOPPERS INDS., INC.  
PORTLAND, OR

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Columbia Inspection, Inc. 7133 N Lombard St. - Portland, OR 97203 (503) 286-9464 Fax (503) 286-5355

Koppers001834

# CERTIFICATE OF ANALYSIS

REPORT DATE: 07/09/97

REPORT NUMBER: 970894

PAGE: 2 OF 5

SAMPLE	TEST	PARAMETER	RESULT	UNIT	DETECTION LIMIT	ANALYST
970894-001-01	B/N/A SEMIVOLS 2 EPA 625	ACENAPHTHYLENE	ND	PPM	0.005	Jacob F.
		ANTHRACENE	ND	PPM	0.005	
		BENZIDINE	ND	PPM	0.010	
		BENZO(a)ANTHRACENE	0.020	PPM	0.005	
		BENZO(a)PYRENE	0.009	PPM	0.005	
		BENZO(b)FLUORANTHRENE	0.010	PPM	0.005	
		BENZO(ghi)PYRENE	ND	PPM	0.005	
		BENZO(k)FLUORANTHRENE	0.010	PPM	0.005	
		BIS(2-CHLOROETHOXY)METHANE	ND	PPM	0.005	
		BIS(2-CHLOROETHYL)ETHER	ND	PPM	0.005	
		BIS(2-CHLOROISOPROPYL)ETHER	ND	PPM	0.005	
		BIS(2-ETHYLHEXYL)PHTHALATE	ND	PPM	0.005	
		BUTYL BENZYL PHTHALATE	ND	PPM	0.005	
		4-BROMOPHENYL PHENYL ETHER	ND	PPM	0.005	
		2-CHLORONAPHTHALENE	ND	PPM	0.005	
		4-CHLOROPHENYL PHENYL ETHER	ND	PPM	0.005	
		CHRYSENE	ND	PPM	0.005	
		1,2-DIBENZO(a)ANTHRACENE	ND	PPM	0.005	
		3,3-DICHLOROBENZIDINE	ND	PPM	0.010	
		1,2-DICHLOROBENZENE	ND	PPM	0.005	
		1,3-DICHLOROBENZENE	ND	PPM	0.005	
		1,4-DICHLOROBENZENE	ND	PPM	0.005	
		DIETHYL PHTHALATE	ND	PPM	0.005	
		DIMETHYL PHTHALATE	ND	PPM	0.005	
		DI-N-BUTYL PHTHALATE	ND	PPM	0.005	
		DI-N-OCTYL PHTHALATE	ND	PPM	0.005	
		2,4-DINITROTOLUENE	ND	PPM	0.010	
		2,6-DINITROTOLUENE	ND	PPM	0.010	
		FLUORANTHENE	0.010	PPM	0.005	
		FLUORENE	ND	PPM	0.005	
		HEXACHLOROBENZENE	ND	PPM	0.005	
		HEXACHLOROBUTADIENE	ND	PPM	0.005	
		HEXACHLOROCYCLOPENTADIENE	ND	PPM	0.025	
		HEXACHLOROETHANE	ND	PPM	0.005	
		INDENO(1,2,3-CD)PYRENE	ND	PPM	0.005	
		ISOPHORONE	ND	PPM	0.005	
		NAPHTHALENE	ND	PPM	0.005	
		NITROBENZENE	ND	PPM	0.005	
		N-NITROSODIMETHYLAMINE	ND	PPM	0.005	
		N-NITROSODIPHENYLAMINE	ND	PPM	0.005	
		N-NITROSO-DI-N-PROPYLAMINE	ND	PPM	0.005	
		PHENANTHRENE	0.005	PPM	0.005	
		PYRENE	0.011	PPM	0.005	
		1,2,4-TRICHLOROBENZENE	ND	PPM	0.005	

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PORTLAND, OR

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# CERTIFICATE OF ANALYSIS

REPORT DATE: 07/09/97

REPORT NUMBER: 970894

PAGE: 3 OF 5

SAMPLE	TEST	PARAMETER	RESULT	UNIT	DETECTION LIMIT	ANALYST
970894-001-01	PESTICIDES & PCBs EPA 8080	PESTICIDES				Jacob F.
		ALDRIN	ND	PPM	0.004	
		ALPHA-BHC	ND	PPM	0.002	
		BETA-BHC	ND	PPM	0.004	
		GAMMA-BHC (LINDANE)	ND	PPM	0.004	
		DELTA-BHC	ND	PPM	0.004	
		ALPHA-CHLORDANE	ND	PPM	0.004	
		GAMMA-CHLORDANE	ND	PPM	0.004	
		4,4'-DDD	ND	PPM	0.008	
		4,4'-DDE	ND	PPM	0.004	
		4,4'-DDT	ND	PPM	0.008	
		DIELDRIN	ND	PPM	0.004	
		ENDOSULFAN I	ND	PPM	0.004	
		ENDOSULFAN II	ND	PPM	0.008	
		ENDOSULFAN SULFATE	ND	PPM	0.008	
		ENDRIN ALDEHYDE	ND	PPM	0.010	
		ENDRIN KETONE	ND	PPM	0.008	
		ENDRIN	ND	PPM	0.004	
		HEPTACHLOR	ND	PPM	0.004	
		HEPTACHLOR EPOXIDE	ND	PPM	0.004	
		METHOXYCHLOR	ND	PPM	0.040	
		TOXAPHENE	ND	PPM	0.020	
		PCBs				
		AROCLOR 1016	ND	PPM	0.05	
		AROCLOR 1221	ND	PPM	0.05	
		AROCLOR 1232	ND	PPM	0.05	
		AROCLOR 1242	ND	PPM	0.05	
		AROCLOR 1248	ND	PPM	0.05	
		AROCLOR 1254	ND	PPM	0.05	
		AROCLOR 1260	ND	PPM	0.05	
		SURROGATE 1	117%	% RECOVERY	50%-150%	
		SURROGATE 2	OBSCURED	% RECOVERY	50%-150%	
		SURROGATE 3	85%	% RECOVERY	50%-150%	
970894-001-02	VOLATILE ORGANICS 1 EPA 8260	BENZENE	0.029	PPM	0.005	Jacob F.
		BROMOBENZENE	ND	PPM	0.005	

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# CERTIFICATE OF ANALYSIS

REPORT DATE: 07/09/97

REPORT NUMBER: 970894

PAGE: 4 OF 5

SAMPLE	TEST	PARAMETER	RESULT	UNIT	DETECTION LIMIT	ANALYST
970894-001-02	VOLATILE ORGANICS 1	BROMOCHLOROMETHANE	ND	PPM	0.005	Jacob F.
	EPA 8260	BROMODICHLOROMETHANE	ND	PPM	0.005	
		BROMOFORM	ND	PPM	0.005	
		BROMOMETHANE	ND	PPM	0.005	
		N-BUTYLBENZENE	ND	PPM	0.005	
		SEC-BUTYLBENZENE	ND	PPM	0.005	
		TERT-BUTYLBENZENE	ND	PPM	0.005	
		CARBON TETRACHLORIDE	ND	PPM	0.005	
		CHLOROBENZENE	ND	PPM	0.005	
		CHLOROETHANE	ND	PPM	0.005	
		CHLOROFORM	ND	PPM	0.005	
		CHLOROMETHANE	ND	PPM	0.025	
		2-CHLOROTOLUENE	ND	PPM	0.005	
		4-CHLOROTOLUENE	ND	PPM	0.005	
		DIBROMOCHLOROMETHANE	ND	PPM	0.005	
		1,2-DIBROMO-3-CHLOROPROPANE	ND	PPM	0.050	
		1,2-DIBROMOETHANE	ND	PPM	0.005	
		DIBROMOETHANE	ND	PPM	0.005	
		1,2-DICHLOROBENZENE	ND	PPM	0.005	
		1,3-DICHLOROBENZENE	ND	PPM	0.005	
		1,4-DICHLOROBENZENE	ND	PPM	0.005	
		DICHLORODIFLUOROMETHANE	ND	PPM	0.050	
		1,1-DICHLOROETHANE	ND	PPM	0.005	
		1,1-DICHLOROETHENE	ND	PPM	0.005	
		CIS-1,2-DICHLOROETHENE	ND	PPM	0.005	
		TRANS-1,2-DICHLOROETHENE	ND	PPM	0.005	
		1,2-DICHLOROPROPANE	ND	PPM	0.005	
		1,3-DICHLOROPROPANE	ND	PPM	0.005	
		2,2-DICHLOROPROPANE	ND	PPM	0.005	
		1,1-DICHLOROPROPENE	ND	PPM	0.005	
		1,2-DICHLOROETHANE	ND	PPM	0.005	
		CIS-1,3-DICHLOROPROPENE	ND	PPM	0.005	
		TRANS-1,3-DICHLOROPROPENE	ND	PPM	0.005	
		ETHYLBENZENE	ND	PPM	0.005	
		HEXACHLOROBUTADIENE	ND	PPM	0.025	
		ISOPROPYLBENZENE	ND	PPM	0.005	
		P-ISOPROPYLTOLUENE	ND	PPM	0.005	
		METHYLENE CHLORIDE	ND	PPM	0.005	
		NAPHTHALENE	0.025	PPM	0.025	
		N-PROPYLBENZENE	ND	PPM	0.005	
		STYRENE	0.005	PPM	0.005	
		1,1,1,2-TETRACHLOROETHANE	ND	PPM	0.005	
		1,1,2,2-TETRACHLOROETHANE	ND	PPM	0.015	
		TETRACHLOROETHENE	ND	PPM	0.005	

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# CERTIFICATE OF ANALYSIS

REPORT DATE: 07/09/97

REPORT NUMBER: 970894

PAGE: 5 OF 5

SAMPLE	TEST	PARAMETER	RESULT	UNIT	DETECTION LIMIT	ANALYST
970894-001-02	VOLATILE ORGANICS 1 EPA 8260	TOLUENE	0.027	PPM	0.005	Jacob F.
		1,2,3-TRICHLOROBENZENE	ND	PPM	0.025	
		1,2,4-TRICHLOROBENZENE	ND	PPM	0.025	
		1,1,1-TRICHLOROETHANE	ND	PPM	0.005	
		1,1,2-TRICHLOROETHANE	ND	PPM	0.005	
		TRICHLOROETHENE	ND	PPM	0.005	
		TRICHLOROFLUORMETHANE	ND	PPM	0.005	
		1,2,3-TRICHLOROPROPANE	ND	PPM	0.005	
		1,2,4-TRIMETHYLBENZENE	ND	PPM	0.005	
		1,3,5-TRIMETHYLBENZENE	ND	PPM	0.005	
		VINYL CHLORIDE	ND	PPM	0.025	
		M- & P-XYLENE	0.024	PPM	0.005	
		O-XYLENE	0.018	PPM	0.005	
		ACETONITRILE	NA	PPM	NA	
		ACROLEIN	NA	PPM	NA	
		2-CHLOROETHYL VINYL ETHER	ND	PPM	0.050	
		SURROGATE 1	84%	% RECOVERY	80%-120%	
		SURROGATE 2	87%	% RECOVERY	80%-120%	
		SURROGATE 3	87%	% RECOVERY	80%-120%	

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# Columbia Inspection, Inc.

U.S. CUSTOMS APPROVED GAUGERS  
PETROLEUM AND ENVIRONMENTAL LABORATORY  
TANK CALIBRATIONS

## OFFICES

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Tacoma, WA (206) 922-8781  
Martinez, CA (510) 229-0360  
San Pedro, CA (310) 833-1557

Fed. I.D. 93-0746019

- KOPPERS INDUSTRIES, INC.  
AMOS KAMERER  
7540 NW ST. HELENS ROAD  
PORTLAND, OR 97210-3663

INVOICE DATE: 07/02/97

INVOICE NO. 570895

07/01/97	For Services Rendered: REPORT NUMBER: 970895		<div style="text-align: center;"> <h1>RECEIVED</h1> <p>JUL - 3 1997</p> <p>KOPPERS INDS., INC. PORTLAND, OR</p> </div>
Client's Project Name: WW Tks 1,3,5 AND 2,4,6			
Date Submitted: 06/30/97			
CI SAMPLE #	CLIENTS ID# DESCRIPTION		
970895-001-01	1,3,5 WW Tks 1,3,5		
970895-001-02	1,3,5 WW Tks 1,3,5		
970895-002-01	2,4,6 WW Tks 2,4,6		
970895-002-02	2,4,6 WW Tks 2,4,6		
ANALYSIS OF THE WASTE WATER SAMPLES.			
O&G, TOTAL, GRAV*.....QUOTED..... 2 @ \$ 39.00			\$ 78.00
PHENOLS, TOTAL*.....QUOTED..... 2 @ \$ 35.00			\$ 70.00
Testing Cost:			\$ 148.00
			\$ 148.00
ORIGINAL			
THANK YOU FOR DOING BUSINESS WITH CI.			
TERMS- NET 15 DAYS			TOTAL \$ 148.00

ALL WORK PERFORMED IS SUBJECT TO THE  
TERMS AND CONDITIONS OF OUR CURRENT  
SCHEDULE OF RATES. LIABILITY IS LIMITED  
TO THE AMOUNT OF THIS INVOICE

Please state invoice numbers and remit to:

**Columbia Inspection, Inc.**

P.O. Box 83569, St. Johns Station  
Portland, OR 97283-0569

KI 37W REV 2 6M 6/90

CIRCLE TERMS ON INVOICE

GIL	DET.	S-DET.	LOC.	DEPT.	TAX	EMP #	MOVE # PO #	AMOUNT
305	807		9270	910	0362			148 -
<div style="display: flex; justify-content: space-between;"> <div> <p>OK TO PAY</p> <p><i>[Signature]</i></p> <p>IMPORTANT: CIRCLE TERMS ON INVOICE</p> </div> <div> <p>GROSS AMOUNT 148 -</p> <p>DISCOUNT \$</p> <p>NET \$</p> </div> </div>								<p>INV # 570895 DATE 7/2/97</p> <p>↓ A/P DEPARTMENT USE ONLY ↓</p> <p>VENDOR NUMBER 014327008</p> <p>TERMS CODE 045 DUE DATE: / /</p> <p>DIVISION MONTH AUDIT NUMBER</p> <p>483 7 92700398</p>



# CERTIFICATE OF ANALYSIS

CLIENT: KOPPERS INDUSTRIES, INC.  
7540 NW ST. HELENS ROAD  
PORTLAND OR 97210-3663

PHONE: (503) 286-3681  
FAX: (503) 285-2831

DATE SUBMITTED: 06/30/97

PO#:

PROJECT NAME: WW Tks 1,3,5 AND 2,4,6

RECEIVED

CI SAMPLE #	CLIENTS ID#	DATE	TIME	DESCRIPTION
970895-001-01	1,3,5	06/30/97	1145	WW Tks 1,3,5
970895-001-02	1,3,5	06/30/97	1145	WW Tks 1,3,5
970895-002-01	2,4,6	06/30/97	1145	WW Tks 2,4,6
970895-002-02	2,4,6	06/30/97	1145	WW Tks 2,4,6

JUL - 3 1997

KOPPERS INDS., INC.  
PORTLAND, OR


REPORT DATE: 07/01/97

REPORT NUMBER: 970895

PAGE: 1 OF 1

SAMPLE	TEST	PARAMETER	RESULT	UNIT	DETECTION LIMIT	ANALYST
WW Tks 1,3,5						
970895-001-01	O&G, TOTAL, GRAV EPA 413.1/9070	TOTAL OIL & GREASE	2	PPM	2	Gordon L.
970895-001-02	PHENOLS, TOTAL EPA 420.1	TOTAL RECOVERABLE PHENOLICS	0.07	PPM	0.05	Dick R.
WW Tks 2,4,6						
970895-002-01	O&G, TOTAL, GRAV EPA 413.1/9070	TOTAL OIL & GREASE	2	PPM	2	Gordon L.
970895-002-02	PHENOLS, TOTAL EPA 420.1	TOTAL RECOVERABLE PHENOLICS	0.10	PPM	0.05	Dick R.

REVIEWED BY:

  
Richard D. Reid - Laboratory Director

COPY

# Columbia Inspection, Inc.

U.S. CUSTOMS APPROVED GAUGERS  
PETROLEUM AND ENVIRONMENTAL LABORATORY  
TANK CALIBRATIONS

## OFFICES

Portland, OR (503) 286-9464  
Tacoma, WA (206) 922-8781  
Martinez, CA (510) 229-0360  
San Pedro, CA (310) 833-1557

Fed. I.D. 93-0746019

KOPPERS INDUSTRIES, INC.  
AMOS KAMERER  
7540 NW ST. HELENS ROAD  
PORTLAND, OR 97210-3663

INVOICE DATE: 06/17/97

INVOICE NO. 570735

06/16/97	For Services Rendered: REPORT NUMBER: 970735		
	Client's Project Name: Hazardous Waste Characterization		
	Date Submitted: 05/28/97		
	Sample Marked: Waste Sludge		
	ANALYSIS OF THE SLUDGE SAMPLE.		
	B/N/A SEMIVOLS 1.....	1 @ \$ 175.00	\$ 175.00
	CYANIDE, TOTAL.....	1 @ \$ 45.00	\$ 45.00
	FLASH POINT - PMCC.....	1 @ \$ 35.00	\$ 35.00
	PCB's.....	1 @ \$ 80.00	\$ 80.00
	PESTICIDES.....	1 @ \$ 80.00	\$ 80.00
	PH.....	1 @ \$ 10.00	\$ 10.00
	PHENOLS 1.....	1 @ \$ 125.00	\$ 125.00
	SULFIDES.....	1 @ \$ 20.00	\$ 20.00
	TCLP - 8 METALS.....	1 @ \$ 110.00	\$ 110.00
	TCLP EXTRACTION.....	1 @ \$ 70.00	\$ 70.00
	VOLATILE ORGANICS 1.....	1 @ \$ 125.00	\$ 125.00
	ZERO HEADSPACE EXTR.....	1 @ \$ 140.00	\$ 140.00
	Testing Cost:		\$ 1015.00
			\$ 1015.00
	RECEIVED		
	JUN 19 1997		
	KOPPERS INDS., INC.		
	PORTLAND, OR		
	ORIGINAL		
	THANK YOU FOR DOING BUSINESS WITH CI.		
TERMS- NET 15 DAYS		TOTAL	\$ 1015.00

ALL WORK PERFORMED IS SUBJECT TO THE  
TERMS AND CONDITIONS OF OUR CURRENT  
SCHEDULE OF RATES. LIABILITY IS LIMITED  
TO THE AMOUNT OF THIS INVOICE

Please state invoice numbers and remit to:

Columbia Inspection, Inc.

P.O. Box 83569, St. Johns Station  
Portland, OR 97283-0569

KI 37W REV 2 6M 6/90

## CIRCLE TERMS ON INVOICE

GIL	DET.	S-DET.	LOC.	DEPT.	TAX	EMP #	MOVE # PO #	AMOUNT	INV #	DATE				
305	807		9270	910	0362			1015 -	570735	6/17/97				
									↓ A/P DEPARTMENT USE ONLY ↓					
									VENDOR NUMBER	014327008				
									TERMS. CODE	045	DUE DATE: / /			
									DIVISION	483	MONTH	6	AUDIT NUMBER	92700380
OK TO PAY									GROSS AMOUNT		1015 -			
									DISCOUNT \$					
									NET \$					

IMPORTANT: CIRCLE TERMS ON INVOICE

Koppers001841



# CERTIFICATE OF ANALYSIS

CLIENT: KOPPERS INDUSTRIES, INC.  
7540 NW ST. HELENS ROAD  
PORTLAND OR 97210-3663

PHONE: (503) 286-3681  
FAX: (503) 285-2831

DATE SUBMITTED: 05/28/97

PO#:

PROJECT NAME: Hazardous Waste Characterization

CI SAMPLE #	CLIENTS ID#	DATE	TIME	DESCRIPTION
970735-001-01		05/28/97	1600	Waste Sludge


REPORT DATE: 06/16/97

REPORT NUMBER: 970735

PAGE: 1 OF 3

SAMPLE	TEST	PARAMETER	RESULT	UNIT	DETECTION LIMIT	ANALYST
<b>CORROSIVITY</b>						
970735-001-01	PH EPA 150.1	PH	6.8			Jacob F.
<b>IGNITABILITY</b>						
970735-001-01	FLASH POINT - PMCC ASTM D-93	FLASH POINT	>212	DEG F		Jacob F.
<b>REACTIVITY</b>						
970735-001-01	CYANIDE, TOTAL EPA 335.2	TOTAL CYANIDE	ND	PPM	1	Dick R.
970735-001-01	SULFIDES EPA 376.2	SULFIDES	ND	PPM	1	Dick R.
970735-001-01	PHENOLS 1 EPA 8270	4-CHLORO-3-METHYLPHENOL	ND	PPB	50,000	Jacob F.
		2-CHLOROPHENOL	ND	PPB	50,000	
		2,4-DICHLOROPHENOL	ND	PPB	50,000	
		2,4-DIMETHYLPHENOL	81,000	PPB	50,000	
		4,6-DINITRO-2-METHYLPHENOL	ND	PPB	50,000	
		2,4-DINITROPHENOL	ND	PPB	250,000	
		2-NITROPHENOL	ND	PPB	50,000	
		4-NITROPHENOL	149,000	PPB	50,000	
		PENTACHLOROPHENOL	ND	PPB	250,000	
		PHENOL	332,000	PPB	50,000	
		2,4,6-TRICHLOROPHENOL	ND	PPB	50,000	

REVIEWED BY:

  
Richard D. Reid - Laboratory Director

ORIGINAL

# CERTIFICATE OF ANALYSIS

REPORT DATE: 06/16/97

REPORT NUMBER: 970735

PAGE: 2 OF 3

SAMPLE	TEST	PARAMETER	RESULT	UNIT	DETECTION LIMIT	ANALYST
970735-001-01	PCB's	PCB-1016	ND	PPM	2.0	Jacob F.
	EPA 8081	PCB-1221	ND	PPM	2.0	
		PCB-1232	ND	PPM	2.0	
		PCB-1242	ND	PPM	2.0	
		PCB-1248	ND	PPM	2.0	
		PCB-1254	ND	PPM	2.0	
		PCB-1260	ND	PPM	2.0	
		SURROGATE 1	OBSCURED	% RECOVERY	70-130	
		SURROGATE 2	OBSCURED	% RECOVERY	70-130	

SAMPLE	TEST	PARAMETER	RESULT	UNIT	REGULATORY LIMIT	ANALYST
970735-001-01	TCLP - 8 METALS	EPA 3010 TCLP EXTRACTABLE METALS			5/29/97	Eleanor T.
		EPA 6010/200.7 TCLP ARSENIC	ND, <0.1	mg/L	5.0	
		EPA 6010/200.7 TCLP BARIUM	0.17	mg/L	100.	
		EPA 6010/200.7 TCLP CADMIUM	ND, <0.01	mg/L	1.0	
		EPA 6010/200.7 TCLP CHROMIUM	ND, <0.02	mg/L	5.0	
		EPA 6010/200.7 TCLP LEAD	0.14	mg/L	5.0	
		EPA 7470/245.1 TCLP MERCURY	ND, <0.0003	mg/L	0.2	
		EPA 6010/200.7 TCLP SELENIUM	ND, <0.1	mg/L	1.0	
		EPA 6010/200.7 TCLP SILVER	ND, <0.02	mg/L	5.0	

970735-001-01 VOLATILE ORGANICS - ZERO HEADSPACE/VOLATILE TCLP EXTRACTABLE

EPA 8260	BENZENE	0.14	PPM	0.5	Jacob F.
	CARBON TETRACHLORIDE	ND, <0.03	PPM	0.5	Jacob F.
	CHLOROBENZENE	ND, <0.03	PPM	100.	
	CHLOROFORM	0.034	PPM	5.0	
	1,4-DICHLOROBENZENE	ND, <0.03	PPM	7.5	
	1,1-DICHLOROETHENE	ND, <0.03	PPM	0.7	
	1,2-DICHLOROETHANE	ND, <0.03	PPM	0.5	
	METHYL ETHYL KETONE	ND, <50.	PPM	200.	
	TETRACHLOROETHENE	ND, <0.03	PPM	0.7	
	TRICHLOROETHENE	ND, <0.03	PPM	0.5	
	VINYL CHLORIDE	ND, <0.05	PPM	0.2	
	SURROGATE 1	OBSCURED	% RECOVERY	80%-120%	
	SURROGATE 2	97%	% RECOVERY	80%-120%	
	SURROGATE 3	99%	% RECOVERY	80%-120%	

ORIGINAL



# CERTIFICATE OF ANALYSIS

REPORT DATE: 06/16/97

REPORT NUMBER: 970735

PAGE: 3 OF 3

SAMPLE	TEST	PARAMETER	RESULT	UNIT	REGULATORY LIMIT	ANALYST
-----						
970735-001-01	SEMI-VOLATILE TCLP EXTRACTABLES B/N/A SEMIVOLS 1 EPA 8270					Jacob F.
		2-METHYLPHENOL (o-CRESOL)	1.0	PPM	200*	
		3-METHYLPHENOL (m-CRESOL)	ND, <0.05	PPM	200*	
		4-METHYLPHENOL (p-CRESOL)	0.99	PPM	200*	
		2,4-DINITROTOLUENE	ND, <0.1	PPM	0.13	
		HEXACHLOROBENZENE	ND, <0.05	PPM	0.13	
		HEXACHLOROBUTADIENE	ND, <0.25	PPM	0.5	
		HEXACHLOROETHANE	ND, <0.05	PPM	3.0	
		NITROBENZENE	ND, <0.05	PPM	2.0	
		PENTACHLOROPHENOL	ND, <0.25	PPM	100.	
		2,4,5-TRICHLOROPHENOL	ND, <0.05	PPM	400.	
		2,4,6-TRICHLOROPHENOL	ND, <0.05	PPM	2.0	
		PYRIDINE	ND, <1.	PPM	5.0	
970735-001-01	HERBICIDES	TCLP EXTRACTABLE HERBICIDES				
		2,4 D	ND, <0.1	PPM	10.	
		2,4,5-TP (Silvex)	ND, <0.1	PPM	1.0	
970735-001-01	PESTICIDES	TCLP EXTRACTABLE PESTICIDES				
		ALPHA-CHLORDANE	ND, <0.04	PPM	0.03	
		GAMMA-CHLORDANE	ND, <0.04	PPM	0.03	
		GAMMA-BHC (LINDANE)	ND, <0.002	PPM	0.4	
		ENDRIN	ND, <0.004	PPM	0.02	
		HEPTACHLOR	ND, <0.004	PPM	0.006	
		HEPTACHLOR EPOXIDE	ND, <0.004	PPM	0.006	
		METHOXYCHLOR	ND, <0.04	PPM	10.	
		TOXAPHENE	ND, <0.08	PPM	0.5	

\* The TCLP Limit for cresols is 200 mg/L for the total of the three cresols.

ORIGINAL

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• KOPPERS INDUSTRIES, INC.  
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7540 NW ST. HELENS ROAD  
PORTLAND, OR 97210-3663

Portland, OR (503) 286-9464  
Tacoma, WA (206) 922-8781  
Martinez, CA (510) 229-0360  
San Pedro, CA (310) 833-1557

Fed. I.D. 93-0746019

INVOICE DATE: 06/10/97

INVOICE NO. 570774

06/05/97	For Services Rendered: REPORT NUMBER: 970774		
	Client's Project Name: WASTE WATER ANALYSIS		
	Date Submitted: 06/03/97		
	CI SAMPLE # CLIENTS ID# DESCRIPTION		
	970774-001-01 WASTE WATER FROM TANKS 1, 3, & 5		
	970774-001-02 WASTE WATER FROM TANKS 1, 3, & 5		
	ANALYSIS OF THE WASTE WATER SAMPLES.		
	O&G, TOTAL, GRAV.....QUOTED..... 1 @ \$ 39.00	\$ 39.00	
	PHENOLS, TOTAL.....QUOTED..... 1 @ \$ 35.00	\$ 35.00	
	Testing Cost:	\$ 74.00	\$ 74.00
	<b>RECEIVED</b> JUN 12 1997 KOPPERS INDS., INC. PORTLAND, OR ORIGINAL		
	THANK YOU FOR DOING BUSINESS WITH CI.		
	TERMS- NET 15 DAYS	TOTAL	\$ 74.00

ALL WORK PERFORMED IS SUBJECT TO THE  
TERMS AND CONDITIONS OF OUR CURRENT  
SCHEDULE OF RATES. LIABILITY IS LIMITED  
TO THE AMOUNT OF THIS INVOICE

Please state invoice numbers and remit to:

**Columbia Inspection, Inc.**

P.O. Box 83569, St. Johns Station  
Portland, OR 97283-0569

KI 37W REV 2 6M 6/90

## CIRCLE TERMS ON INVOICE

GIL	DET.	S-DET.	LOC.	DEPT.	TAX	EMP #	MOVE # PO #	AMOUNT	
305	807		9270	910	0362			74 -	INV # 570774 DATE 6/10/97
									↓ A/P DEPARTMENT USE ONLY ↓
									VENDOR NUMBER 014327008
									TERMS. CODE 045 DUE DATE: / /
									DIVISION MONTH AUDIT NUMBER
									483 6 92700373
OK TO PAY						GROSS AMOUNT		74 -	
						DISCOUNT \$			
						NET \$			

IMPORTANT: CIRCLE TERMS ON INVOICE

Koppers001845



# CERTIFICATE OF ANALYSIS

CLIENT: KOPPERS INDUSTRIES, INC.  
7540 NW ST. HELENS ROAD  
PORTLAND OR 97210-3663

PHONE: (503) 286-3681  
FAX: (503) 285-2831

DATE SUBMITTED: 06/03/97

PO#:

PROJECT NAME: WASTE WATER ANALYSIS

CI SAMPLE #	CLIENTS ID#	DATE	TIME	DESCRIPTION
970774-001-01		06/03/97	1500	WASTE WATER FROM TANKS 1, 3, & 5
970774-001-02		06/03/97	1500	WASTE WATER FROM TANKS 1, 3, & 5


REPORT DATE: 06/05/97

REPORT NUMBER: 970774

PAGE: 1 OF 1

SAMPLE	TEST	PARAMETER	RESULT	UNIT	DETECTION LIMIT	ANALYST
WASTEWATER FROM TANKS 1,3,5						
970774-001-01	O&G, TOTAL, GRAV EPA 413.1/9070	TOTAL OIL & GREASE	8.5	PPM	2	Gordon L.
970774-001-02	PHENOLS, TOTAL EPA 420.1	TOTAL RECOVERABLE PHENOLICS	0.24	PPM	0.05	Dick R.

REVIEWED BY:

  
Richard D. Reid - Laboratory Director

ORIGINAL

TANK CALIBRATIONS

OFFICES

KOPPERS INDUSTRIES, INC.  
AMOS KAMERER  
7540 NW ST. HELENS ROAD  
PORTLAND, OR 97210-3663

Portland, OR (503) 286-9464  
Tacoma, WA (206) 922-8781  
Martinez, CA (510) 229-0360  
San Pedro, CA (310) 833-1557  
Fed. I.D. 93-0746019

INVOICE DATE: 05/30/97

INVOICE NO. 570734

05/29/97	For Services Rendered: REPORT NUMBER: 970734		
	Client's Project Name: WWTks 2-4-6		
	Date Submitted: 05/28/97		
	CI SAMPLE # CLIENTS ID# DESCRIPTION		
	970734-001-01 Wastewater Grab WWTks 2-4-6		
	970734-001-02 Wastewater Grab WWTks 2-4-6		
	ANALYSIS OF THE WASTE WATER SAMPLES.		
	O&G, TOTAL, GRAV.....QUOTED.... 1 @ \$ 39.00	\$ 39.00	
	PHENOLS, TOTAL.....QUOTED.... 1 @ \$ 35.00	\$ 35.00	
	Testing Cost:	\$ 74.00	\$ 74.00
RECEIVED JUN - 2 1997 KOPPERS INDUS. INC. PORTLAND OR  THANK YOU FOR DOING BUSINESS WITH CI.			
TERMS- NET 15 DAYS		TOTAL	\$ 74.00

ALL WORK PERFORMED IS SUBJECT TO THE  
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SCHEDULE OF RATES. LIABILITY IS LIMITED  
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Columbia Inspection, Inc.

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Portland, OR 97283-0569

KI 37W REV 2 6M 6/90

CIRCLE TERMS ON INVOICE

GIL	DET.	S-DET.	LOC.	DEPT.	TAX	EMP #	MOVE # PO #	AMOUNT	INV #	DATE				
305	807		9270	910	0362			74.00	570734	5/30/97				
									↓ A/P DEPARTMENT USE ONLY ↓					
									VENDOR NUMBER	014327008				
									TERMS. CODE	045	DUE DATE: 1 / 1			
									DIVISION	483	MONTH	6	AUDIT NUMBER	92700353
OK TO PAY									GROSS AMOUNT		74.00			
									DISCOUNT \$					
									NET \$					

IMPORTANT: CIRCLE TERMS ON INVOICE



# CERTIFICATE OF ANALYSIS

CLIENT: KOPPERS INDUSTRIES, INC.  
7540 NW ST. HELENS ROAD  
PORTLAND OR 97210-3663

PHONE: (503) 286-3681  
FAX: (503) 285-2831

DATE SUBMITTED: 05/28/97

PO#:

PROJECT NAME: WWTks 2-4-6

CI SAMPLE #	CLIENTS ID#	DATE	TIME	DESCRIPTION
970734-001-01		05/28/97	1610	Wastewater Grab WWTks 2-4-6
970734-001-02		05/28/97	1610	Wastewater Grab WWTks 2-4-6

REPORT DATE: 05/29/97

REPORT NUMBER: 970734

PAGE: 1 OF 1

SAMPLE	TEST	PARAMETER	RESULT	UNIT	DETECTION LIMIT	ANALYST
970734-001-01	O&G, TOTAL, GRAV EPA 413.1/9070	TOTAL OIL & GREASE	2.1	PPM	2	Gordon L.
970734-001-02	PHENOLS, TOTAL EPA 420.1	TOTAL RECOVERABLE PHENOLICS	0.07	PPM	0.05	Dick R.

## RECEIVED

JUN - 2 1997

KOPPERS INDS., INC.  
PORTLAND, OR

REVIEWED BY:

Richard D. Reid - Laboratory Director

# Columbia Inspection, Inc.

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Fed. I.D. 93-0746019

KOPPERS INDUSTRIES, INC.  
AMOS KAMERER  
7540 NW ST. HELENS ROAD  
PORTLAND, OR 97210-3663

INVOICE DATE: 05/13/97

INVOICE NO. 570654

05/12/97	For Services Rendered: REPORT NUMBER: 970654  Client's Project Name: Quarterly PAH Test  Date Submitted: 05/08/97  Sample Marked: Wastewater Grab from Wntks 1,3,5   ANALYSIS OF THE WASTE WATER SAMPLE. PNAH 1..... 1 @ \$ 145.00  Testing Cost:	\$ 145.00 ----- \$ 145.00	\$ 145.00
<b>RECEIVED</b>  MAY 14 1997  KOPPERS INDS., INC. PORTLAND, OR   THANK YOU FOR DOING BUSINESS WITH CI.		ORIGINAL	
TERMS- NET 15 DAYS		TOTAL	\$ 145.00

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Portland, OR 97283-0569

CIRCLE TERMS ON INVOICE

KI 37W REV 2 6M 6/90

GIL	DET.	S-DET.	LOC.	DEPT.	TAX	EMP #	MOVE # PO #	AMOUNT	INV #	DATE	
305	807		9270	910	0362			145 -	570654	5/13/97	
									↓ A/P DEPARTMENT USE ONLY ↓		
									VENDOR NUMBER	014327008	
									TERMS, CODE	045 DUE DATE: / /	
OK TO PAY							GROSS AMOUNT		145 -		
							DIVISION	MONTH	AUDIT NUMBER		



# CERTIFICATE OF ANALYSIS

CLIENT: KOPPERS INDUSTRIES, INC.  
7540 NW ST. HELENS ROAD  
PORTLAND OR 97210-3663

PHONE: (503) 286-3681  
FAX: (503) 285-2831

DATE SUBMITTED: 05/08/97

PO#:

PROJECT NAME: QUARTERLY PAH ANALYSIS

CI SAMPLE #	CLIENTS ID#	DATE	TIME	DESCRIPTION
970654-001-01		05/05/97	0930	WASTE WATER GRAB SAMPLE FROM WWTKS 1,3,& 5

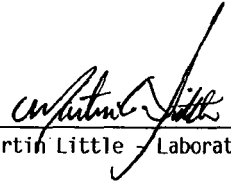
REPORT DATE: 05/12/97

REPORT NUMBER: 970654

PAGE: 1 OF 1

SAMPLE	TEST	PARAMETER	RESULT	UNIT	DETECTION LIMIT	ANALYST
WASTE WATER GRAB SAMPLE FROM WWTKS 1,3,& 5						
	PNAH 1	ACENAPHTHENE	0.0084	PPM	0.00005	Jacob F.
	EPA 8270M (SIM)	ACENAPHTHYLENE	0.00026	PPM	0.00005	
		ANTHRACENE	0.0019	PPM	0.00005	
		BENZO(A)ANTHRACENE	0.0076	PPM	0.00005	
		BENZO(A)PYRENE	0.0031	PPM	0.0005	
		BENZO(B)FLUORANTHENE	0.0077	PPM	0.0005	
		BENZO(GHI)PERYLENE	0.0042	PPM	0.0005	
		BENZO(K)FLUORANTHENE	0.0077	PPM	0.0005	
		CHRYSENE	0.0076	PPM	0.00005	
		DIBENZO(AH)ANTHRACENE	<0.0005	PPM	0.0005	
		FLUORANTHENE	0.012	PPM	0.00005	
		FLUORENE	0.0058	PPM	0.00005	
		INDENO(1,2,3-CD)PYRENE	0.0025	PPM	0.0005	
		NAPHTHALENE	0.00035	PPM	0.00005	
		PHENANTHRENE	0.0040	PPM	0.00005	
		PYRENE	0.011	PPM	0.00005	
		SURROGATE	OBSCURED	%RECOVERY	50%-150%	

REVIEWED BY:

  
Martin Little - Laboratory Manager

ORIGINAL  
RECEIVED

MAY 14 1997

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PORTLAND, OR

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San Pedro, CA (310) 833-1557

Fed. I.D. 93-0746019

INVOICE DATE: 05/07/97

INVOICE NO. 570634

05/06/97	For Services Rendered: REPORT NUMBER: 970634		
	Client's Project Name: TANKS 1, 3,& 5 WASTE WATER ANALYSIS		
	Date Submitted: 05/05/97		
	CI SAMPLE # CLIENTS ID# DESCRIPTION		
	970634-001-01 TANKS 1, 3,& 5 WASTE WATER GRAB SAMPLE		
	970634-001-02 TANKS 1, 3,& 5 WASTE WATER GRAB SAMPLE		
	ANALYSIS OF THE WASTE WATER SAMPLES.		
	O&G, TOTAL, GRAV.....QUOTED.... 1 @ \$ 39.00	\$ 39.00	
	PHENOLS, TOTAL.....QUOTED.... 1 @ \$ 35.00	\$ 35.00	
	Testing Cost:	\$ 74.00	\$ 74.00
<div>RECEIVED</div> <div>MAY - 8 1997</div> <div>KOPPERS INDS., INC.</div> <div>PORTLAND, OR</div>			
THANK YOU FOR DOING BUSINESS WITH CI.			
TERMS- NET 15 DAYS		TOTAL	\$ 74.00

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Portland, OR 97283-0569

KI 37W REV 2 6M 6/90

CIRCLE TERMS ON INVOICE

GIL	DET.	S-DET.	LOC.	DEPT.	TAX	EMP #	MOVE # PO #	AMOUNT	INV #	DATE				
305	807		9270	910	0362			74-	570634	5/7/97				
									↓ A/P DEPARTMENT USE ONLY ↓					
									VENDOR NUMBER	014327008				
									TERMS, CODE	045	DUE DATE: / /			
									DIVISION	483	MONTH	5	AUDIT NUMBER	92700306
OK TO PAY									GROSS AMOUNT		74-			
									DISCOUNT \$					
									NET \$					
IMPORTANT: CIRCLE TERMS ON INVOICE														



# Columbia Inspection, Inc.

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Martinez, CA (510) 229-0360  
San Pedro, CA (310) 833-1557

Fed. I.D. 93-0746019

KOPPERS INDUSTRIES, INC.  
AMOS KAMERER  
7540 NW ST. HELENS ROAD  
PORTLAND, OR 97210-3663

INVOICE DATE: 05/07/97

INVOICE NO. 570634

05/06/97	<p>For Services Rendered: REPORT NUMBER: 970634</p> <p>Client's Project Name: TANKS 1, 3.&amp; 5 WASTE WATER ANALYSIS</p> <p>Date Submitted: 05/05/97</p> <table><thead><tr><th>CI SAMPLE #</th><th>CLIENTS ID#</th><th>DESCRIPTION</th></tr></thead><tbody><tr><td>970634-001-01</td><td></td><td>TANKS 1, 3.&amp; 5 WASTE WATER GRAB SAMPLE</td></tr><tr><td>970634-001-02</td><td></td><td>TANKS 1, 3.&amp; 5 WASTE WATER GRAB SAMPLE</td></tr></tbody></table> <p>ANALYSIS OF THE WASTE WATER SAMPLES.</p> <table><tbody><tr><td>O&amp;G, TOTAL, GRAV.....QUOTED....</td><td>1 @ \$ 39.00</td><td>\$ 39.00</td></tr><tr><td>PHENOLS, TOTAL.....QUOTED....</td><td>1 @ \$ 35.00</td><td>\$ 35.00</td></tr><tr><td colspan="2">Testing Cost:</td><td>\$ 74.00</td></tr></tbody></table> <p>THANK YOU FOR DOING BUSINESS WITH CI.</p>	CI SAMPLE #	CLIENTS ID#	DESCRIPTION	970634-001-01		TANKS 1, 3.& 5 WASTE WATER GRAB SAMPLE	970634-001-02		TANKS 1, 3.& 5 WASTE WATER GRAB SAMPLE	O&G, TOTAL, GRAV.....QUOTED....	1 @ \$ 39.00	\$ 39.00	PHENOLS, TOTAL.....QUOTED....	1 @ \$ 35.00	\$ 35.00	Testing Cost:		\$ 74.00		
CI SAMPLE #	CLIENTS ID#	DESCRIPTION																			
970634-001-01		TANKS 1, 3.& 5 WASTE WATER GRAB SAMPLE																			
970634-001-02		TANKS 1, 3.& 5 WASTE WATER GRAB SAMPLE																			
O&G, TOTAL, GRAV.....QUOTED....	1 @ \$ 39.00	\$ 39.00																			
PHENOLS, TOTAL.....QUOTED....	1 @ \$ 35.00	\$ 35.00																			
Testing Cost:		\$ 74.00																			
TERMS- NET 15 DAYS		TOTAL	\$ 74.00																		

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PORTLAND, OR

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**Columbia Inspection, Inc.**

P.O. Box 83569, St. Johns Station  
Portland, OR 97283-0569

Koppers001852



# CERTIFICATE OF ANALYSIS

CLIENT: KOPPERS INDUSTRIES, INC.  
7540 NW ST. HELENS ROAD  
PORTLAND OR 97210-3663

PHONE: (503) 286-3681  
FAX: (503) 285-2831

DATE SUBMITTED: 05/05/97

PO#:

PROJECT NAME: TANKS 1, 3, & 5 WASTE WATER ANALYSIS

CI SAMPLE #	CLIENTS ID#	DATE	TIME	DESCRIPTION
970634-001-01		05/05/97	0930	TANKS 1, 3, & 5 WASTE WATER GRAB SAMPLE
970634-001-02		05/05/97	0930	TANKS 1, 3, & 5 WASTE WATER GRAB SAMPLE

REPORT DATE: 05/06/97

REPORT NUMBER: 970634

PAGE: 1 OF 1

SAMPLE	TEST	PARAMETER	RESULT	UNIT	DETECTION LIMIT	ANALYST
970634-001-01	O&G, TOTAL, GRAV EPA 413.1/9070	TOTAL OIL & GREASE	ND	PPM	2	Gordon L.
970634-001-02	PHENOLS, TOTAL EPA 420.1	TOTAL RECOVERABLE PHENOLICS	0.08	PPM	0.05	Dick R.

RECEIVED

MAY - 8 1997

KOPPERS INDS., INC.  
PORTLAND, OR

REVIEWED BY

  
Richard D. Reid - Laboratory Director

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Columbia Inspection, Inc. 7133 N Lombard St. - Portland, OR 97203 (503) 286-9464 Fax (503) 286-5355

Koppers001853

U.S. CUSTOMS APPROVED GAUGERS  
PETROLEUM AND ENVIRONMENTAL LABORATORY  
TANK CALIBRATIONS

Portland, OR (503) 286-9464  
Tacoma, WA (206) 922-8781  
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KOPPERS INDUSTRIES, INC.  
AMOS KAMERER  
7540 NW ST. HELENS ROAD  
PORTLAND, OR 97210-3663

**INVOICE NO. 570536**

ALL WORK PERFORMED IS SUBJECT TO THE  
TERMS AND CONDITIONS OF OUR CURRENT  
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*Columbia Inspection, Inc.*

P.O. Box 83569, St. Johns Station  
Portland, OR 97283-0569

CIRCLE TERMS ON INVOICE

GIL		DET.		S-DET.		LOC.		DEPT.		TAX		EMP #		MOVE # PO #		AMOUNT							
305		807				9270		910		0362						74 -							
																INV # 570536		DATE 4/17/97					
																↓ A/P DEPARTMENT USE ONLY ↓							
																VENDOR NUMBER		014327008					
																TERMS. CODE		045		DUE DATE: / /			
OK TO PA <i>John Johnson</i>												GROSS AMOUNT						74 -					
												DISCOUNT \$											
												NET \$											
												DIVISION		MONTH		AUDIT NUMBER							
												483		05		92700285							

**IMPORTANT: CIRCLE TERMS ON INVOICE**

Koppers001854



# CERTIFICATE OF ANALYSIS

CLIENT: KOPPERS INDUSTRIES, INC.  
7540 NW ST. HELENS ROAD  
PORTLAND OR 97210-3663

PHONE: (503) 286-3681  
FAX: (503) 285-2831

DATE SUBMITTED: 04/14/97

PO#:

PROJECT NAME: WASTE WATER ANALYSIS

CI SAMPLE #	CLIENTS ID#	DATE	TIME	DESCRIPTION
970536-001-01		04/14/97		WASTE WATER GRAB SAMPLE FROM TANKS 1, 3, & 5
970536-001-02		04/14/97		WASTE WATER GRAB SAMPLE FROM TANKS 1, 3, & 5


REPORT DATE: 04/15/97

REPORT NUMBER: 970536

PAGE: 1 OF 1

SAMPLE	TEST	PARAMETER	RESULT	UNIT	DETECTION LIMIT	ANALYST
970536-001-01	O&G, TOTAL, GRAV EPA 413.1/9070	TOTAL OIL & GREASE	ND	PPM	2	Dick R.
970536-001-02	PHENOLS, TOTAL EPA 420.1	TOTAL RECOVERABLE PHENOLICS	0.14	PPM	0.05	Dick R.

REVIEWED BY:

  
Richard D. Reid - Laboratory Director

ORIGINAL  
RECEIVED

APR 21 1997

KOPPERS INDS. INC.  
PORTLAND, OR

Columbia Inspection, Inc. 7133 N Lombard St. - Portland, OR 97203 (503) 286-9464 Fax (503) 286-5355

Koppers001855

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San Pedro, CA (310) 833-1557

KOPPERS INDUSTRIES, INC.  
AMOS KAMERER  
7540 NW ST. HELENS ROAD  
PORTLAND, OR 97210-3663

INVOICE NO. 570541

RECEIVED  
APR 21 1997  
ORIGINAL KOPPERS INDS., INC.  
PORTLAND OR

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P.O. Box 83569, St. Johns Station  
Portland, OR 97283-0569

**CIRCLE TERMS ON INVOICE**

CIRCLE TERMS ON INVOICE									
GIL	DET.	S-DET.	LOC.	DEPT.	TAX	EMP #	MOVE # PO #	AMOUNT	
305	807		9270	910	0362			74-	INV # 570541 DATE 4/17/97
									↓ A/P DEPARTMENT USE ONLY ↓
									VENDOR NUMBER 014327008
									TERMS CODE: 045 DUE DATE: / /
OK TO PAY <i>Linda Phoenix</i>						GROSS AMOUNT 74-			DIVISION 483 MONTH 05 AUDIT NUMBER 92700286
						DISCOUNT \$			
						NET \$			

**IMPORTANT: CIRCLE TERMS ON INVOICE**

Koppers001856



# CERTIFICATE OF ANALYSIS

CLIENT: KOPPERS INDUSTRIES, INC.  
7540 NW ST. HELENS ROAD  
PORTLAND OR 97210-3663

PHONE: (503) 286-3681  
FAX: (503) 285-2831

DATE SUBMITTED: 04/14/97

PO#:

PROJECT NAME: WASTE WATER ANALYSIS

CI SAMPLE #	CLIENTS ID#	DATE	TIME	DESCRIPTION
970541-002-01		04/14/97		WASTE WATER GRAB SAMPLE FROM TANKS 2, 4, & 6
970541-002-02		04/14/97		WASTE WATER GRAB SAMPLE FROM TANKS 2, 4, & 6

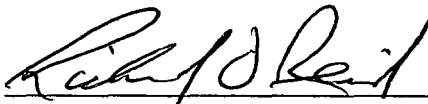
REPORT DATE: 04/16/97

REPORT NUMBER: 970541

PAGE: 1 OF 1

SAMPLE	TEST	PARAMETER	RESULT	UNIT	DETECTION LIMIT	ANALYST
WW Tanks 1-3-5						
970541-002-01	O&G, TOTAL, GRAV EPA 413.1/9070	TOTAL OIL & GREASE	ND	PPM	2	Dick R.
970541-002-02	PHENOLS, TOTAL EPA 420.1	TOTAL RECOVERABLE PHENOLICS	ND	PPM	0.05	Dick R.

REVIEWED BY:

  
Richard D. Reid- Laboratory Director

RECEIVED

APR 21 1997

KOPPERS INDS., INC.  
PORTLAND, OR

Columbia Inspection, Inc. 7133 N Lombard St. - Portland, OR 97203 (503) 286-9464 Fax (503) 286-5355

Koppers001857

TANK CALIBRATIONS

OFFICES

KOPPERS INDUSTRIES, INC.  
 AMOS KAMERER  
 7540 NW ST. HELENS ROAD  
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Portland, OR (503) 286-9464  
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 Martinez, CA (510) 229-0360  
 San Pedro, CA (310) 833-1557

Fed. I.D. 93-0746019

INVOICE DATE: 04/17/97

INVOICE NO. 570550

04/16/97	For Services Rendered: REPORT NUMBER: 970550		
	Client's Project Name: WW Tanks 1-3-5		
	Date Submitted: 04/16/97		
	Sample Marked: Wastewater Grab from Tanks 1-3-5		
	ANALYSIS OF THE WASTE WATER SAMPLE.		
	PNAH 2*..... 1 @ \$ 175.00	\$ 175.00	
	Testing Cost:	\$ 175.00	\$ 175.00
	* RUSH FEE.....	\$ 175.00	\$ 175.00
<p><b>RECEIVED</b></p> <p>APR 21 1997</p> <p>KOPPERS INDS., INC.</p> <p>PORTLAND, OR</p> <p><b>ORIGINAL</b></p>			
THANK YOU FOR DOING BUSINESS WITH CI.			
TERMS- NET 15 DAYS		\$ 350.00 TOTAL	\$350.00

ALL WORK PERFORMED IS SUBJECT TO THE  
 TERMS AND CONDITIONS OF OUR CURRENT  
 SCHEDULE OF RATES. LIABILITY IS LIMITED  
 TO THE AMOUNT OF THIS INVOICE

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**Columbia Inspection, Inc.**

P.O. Box 83569, St. Johns Station  
 Portland, OR 97283-0569

KI 37W REV 2 6M 6/90

CIRCLE TERMS ON INVOICE

GIL	DET.	S-DET.	LOC.	DEPT.	TAX	EMP #	MOVE # PO #	AMOUNT
305	807		9270	910	0362			350-
<p>OK TO PAY <i>[Signature]</i></p>								<p>GROSS AMOUNT 350-</p> <p>DISCOUNT \$</p> <p>NET \$</p>

INV # 570550 DATE 4/17/97

↓ A/P DEPARTMENT USE ONLY ↓

VENDOR NUMBER 014327008

TERMS. CODE 045 DUE DATE: / /

DIVISION 483 MONTH 05 AUDIT NUMBER 92700287

IMPORTANT: CIRCLE TERMS ON INVOICE



# CERTIFICATE OF ANALYSIS

CLIENT: KOPPERS INDUSTRIES, INC.  
7540 NW ST. HELENS ROAD  
PORTLAND OR 97210-3663

PHONE: (503) 286-3681  
FAX: (503) 285-2831

DATE SUBMITTED: 04/16/97

PO#:

PROJECT NAME: WW Tanks 1-3-5

CI SAMPLE #	CLIENTS ID#	DATE	TIME	DESCRIPTION
970550-001-01		04/14/97		Wastewater Grab from Tanks 1-3-5

REPORT DATE: 04/16/97

REPORT NUMBER: 970550

PAGE: 1 OF 1

SAMPLE	TEST	PARAMETER	RESULT	UNIT	DETECTION LIMIT	ANALYST
970550-001-01	PNAH 2	ACENAPHTHENE	0.009	PPM	0.007	*
	EPA 625 (SIM)	ACENAPHTHYLENE	0.020	PPM	0.010	
		ANTHRACENE	ND	PPM	0.001	
		BENZO(A)ANTHRACENE	ND	PPM	0.005	
		BENZO(A)PYRENE	ND	PPM	0.01	
		BENZO(B)FLUORANTHENE	ND	PPM	0.0001	
		BENZO(GHI)PERYLENE	ND	PPM	0.0004	
		BENZO(K)FLUORANTHENE	ND	PPM	0.0003	
		CHRYSENE	ND	PPM	0.001	
		DIBENZO(AH)ANTHRACENE	ND	PPM	0.0004	
		FLUORANTHENE	0.022	PPM	0.001	
		FLUORENE	0.004	PPM	0.001	
		INDENO(1,2,3-CD)PYRENE	ND	PPM	0.001	
		NAPHTHALENE	ND	PPM	0.005	
		PHENANTHRENE	0.008	PPM	0.001	
		PYRENE	ND	PPM	0.001	

SURROGATE

ACCEPTABLE % RECOVERY

REVIEWED BY:

Richard D. Reid - Laboratory Director

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RECEIVED

APR 21 1997

KOPPERS INDS., INC.  
PORTLAND, OR

Columbia Inspection, Inc. 7133 N Lombard St. - Portland, OR 97203 (503) 286-9464 Fax (503) 286-5355

Koppers001859



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Martinez, CA (510) 229-0360  
San Pedro, CA (310) 833-1557

Fed. I.D. 93-0746019

KOPPERS INDUSTRIES, INC.  
AMOS KAMERER  
7540 NW ST. HELENS ROAD  
PORTLAND, OR 97210-3663

INVOICE DATE: 04/25/97

INVOICE NO. 570585

ORIGINAL

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Portland, OR 97283-0569

KI 37W REV 2 6M 6/90

**CIRCLE TERMS ON INVOICE**

GIL		DET.		S-DET.		LOC.		DEPT.		TAX		EMP #		MOVE # PO #		AMOUNT					
305		807				9270		910		0362						74 -					
																INV # 570585		DATE 4/25/97			
																↓ A/P DEPARTMENT USE ONLY ↓					
																VENDOR NUMBER		014327008			
																TERMS. CODE		045		DUE DATE: / /	
OK TO PAY <i>[Signature]</i>												GROSS AMOUNT				74 -					
												DISCOUNT \$									
												NET \$									
IMPORTANT: CIRCLE TERMS ON INVOICE												483		05		92700288					



# CERTIFICATE OF ANALYSIS

CLIENT: KOPPERS INDUSTRIES, INC.  
7540 NW ST. HELENS ROAD  
PORTLAND OR 97210-3663

PHONE: (503) 286-3681  
FAX: (503) 285-2831

DATE SUBMITTED: 04/22/97

PO#:

PROJECT NAME: WASTE WATER ANALYSIS FROM TANKS 1,3, & 5

CI SAMPLE #	CLIENTS ID#	DATE	TIME	DESCRIPTION
970585-001-01		04/23/97	0900	WASTE WATER GRAB SAMPLE FROM TANKS 1,3, & 5
970585-001-02		04/23/97	0900	WASTE WATER GRAB SAMPLE FROM TANKS 1,3, & 5


REPORT DATE: 04/24/97

REPORT NUMBER: 970585

PAGE: 1 OF 1

SAMPLE	TEST	PARAMETER	RESULT	UNIT	DETECTION LIMIT	ANALYST
970585-001-01	O&G, TOTAL, GRAV EPA 413.1/9070	TOTAL OIL & GREASE	2.6	PPM	2	Dick R.
970585-001-02	PHENOLS, TOTAL EPA 420.1	TOTAL RECOVERABLE PHENOLICS	ND	PPM	0.05	Dick R.

REVIEWED BY:

  
Richard D. Reid - Laboratory Director

ORIGINAL

# Columbia Inspection, Inc.

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KOPPERS INDUSTRIES, INC.  
AMOS KAMERER  
7540 NW ST. HELENS ROAD  
PORTLAND, OR 97210-3663

INVOICE DATE: 04/30/97

INVOICE NO. 570616

04/30/97	For Services Rendered: REPORT NUMBER: 970616			
	Client's Project Name: WWTks 2,4,6			
	Date Submitted: 04/30/97			
	CI SAMPLE #	CLIENTS ID#	DESCRIPTION	
	970616-001-01		Wastewater Grab from Tanks 2,4,6	
	970616-001-02		Wastewater Grab from Tanks 2,4,6	
	ANALYSIS OF THE WASTE WATER SAMPLES.			
	O&G, TOTAL, GRAV.....QUOTED.... 1 @ \$ 39.00			\$ 39.00
	PHENOLS, TOTAL.....QUOTED.... 1 @ \$ 35.00			\$ 35.00
	Testing Cost:			\$ 74.00
				\$ 74.00
<div style="display: flex; justify-content: space-around;"> <div> <p><b>RECEIVED</b></p> <p>MAY - 5 1997</p> <p>KOPPERS INDS. INC.</p> <p>PORTLAND, OR</p> </div> <div> <p><b>COPY</b></p> </div> </div>				
THANK YOU FOR DOING BUSINESS WITH CI.				
TERMS- NET 15 DAYS				TOTAL \$ 74.00

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SCHEDULE OF RATES. LIABILITY IS LIMITED  
TO THE AMOUNT OF THIS INVOICE

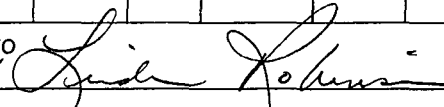
Please state invoice numbers and remit to:

**Columbia Inspection, Inc.**

P.O. Box 83569, St. Johns Station  
Portland, OR 97283-0569

KI 37W REV 2 6M 6/90

CIRCLE TERMS ON INVOICE

GIL	DET.	S-DET.	LOC.	DEPT.	TAX	EMP #	MOVE # PO #	AMOUNT	
305	807		9270	910	0362			74 -	
<div style="display: flex; justify-content: space-between;"> <div> <p>OK TO PAY </p> <p>IMPORTANT: CIRCLE TERMS ON INVOICE</p> </div> <div> <p>GROSS AMOUNT 74 -</p> <p>DISCOUNT \$</p> <p>NET \$</p> </div> </div>									<p>INV # 570616 DATE 4/30/97</p> <p>↓ A/P DEPARTMENT USE ONLY ↓</p> <p>VENDOR NUMBER 014327008</p> <p>TERMS CODE 045 DUE DATE: / /</p> <p>DIVISION 483 MONTH 05 AUDIT NUMBER 92700289</p>

Koppers001862



# CERTIFICATE OF ANALYSIS

CLIENT: KOPPERS INDUSTRIES, INC.  
7540 NW ST. HELENS ROAD  
PORTLAND OR 97210-3663

PHONE: (503) 286-3681  
FAX: (503) 285-2831

DATE SUBMITTED: 04/30/97

PO#:

PROJECT NAME: WWTks 2,4,6

CI SAMPLE #	CLIENTS ID#	DATE	TIME	DESCRIPTION
970616-001-01		04/30/97	1130	Wastewater Grab from Tanks 2,4,6
970616-001-02		04/30/97	1130	Wastewater Grab from Tanks 2,4,6

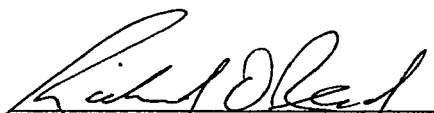
REPORT DATE: 05/01/97

REPORT NUMBER: 970616

PAGE: 1 OF 1

SAMPLE	TEST	PARAMETER	RESULT	UNIT	DETECTION LIMIT	ANALYST
WWTks 2,4,6						
970616-001-01	O&G, TOTAL, GRAV EPA 413.1/9070	TOTAL OIL & GREASE	9.8	PPM	2	Dick R.
970616-001-02	PHENOLS, TOTAL EPA 420.1	TOTAL RECOVERABLE PHENOLICS	ND	PPM	0.05	Dick R.

REVIEWED BY:

  
Richard D. Reid - Laboratory Director

COPY

# Columbia Inspection, Inc.

U.S. CUSTOMS APPROVED GAUGERS  
PETROLEUM AND ENVIRONMENTAL LABORATORY  
TANK CALIBRATIONS

## OFFICES

Portland, OR (503) 286-9464  
Tacoma, WA (206) 922-8781  
Martinez, CA (510) 229-0360  
San Pedro, CA (310) 833-1557

Fed. I.D. 93-0746019

KOPPERS INDUSTRIES, INC.  
AMOS KAMERER  
7540 NW ST. HELENS ROAD  
PORTLAND, OR 97210-3663

INVOICE DATE: 03/31/97

INVOICE NO. 570461

04/01/97	<p>For Services Rendered: REPORT NUMBER: 970461</p> <p>Client's Project Name: WW Tanks 2-4-6</p> <p>Date Submitted: 03/31/97</p> <table><thead><tr><th>CI SAMPLE #</th><th>CLIENTS ID#</th><th>DESCRIPTION</th></tr></thead><tbody><tr><td>970461-001-01</td><td></td><td>WW Tanks 2-4-6 Grab</td></tr><tr><td>970461-001-02</td><td></td><td>WW Tanks 2-4-6 Grab</td></tr></tbody></table> <p>ANALYSIS OF THE WASTE WATER SAMPLES.</p> <table><tbody><tr><td>O&amp;G, TOTAL, GRAV.....QUOTED....</td><td>1 @ \$ 39.00</td><td>\$ 39.00</td></tr><tr><td>PHENOLS, TOTAL.....QUOTED....</td><td>1 @ \$ 35.00</td><td>\$ 35.00</td></tr></tbody></table> <p>Testing Cost:</p> <table><tbody><tr><td></td><td>\$ 74.00</td><td>\$ 74.00</td></tr></tbody></table>	CI SAMPLE #	CLIENTS ID#	DESCRIPTION	970461-001-01		WW Tanks 2-4-6 Grab	970461-001-02		WW Tanks 2-4-6 Grab	O&G, TOTAL, GRAV.....QUOTED....	1 @ \$ 39.00	\$ 39.00	PHENOLS, TOTAL.....QUOTED....	1 @ \$ 35.00	\$ 35.00		\$ 74.00	\$ 74.00		
CI SAMPLE #	CLIENTS ID#	DESCRIPTION																			
970461-001-01		WW Tanks 2-4-6 Grab																			
970461-001-02		WW Tanks 2-4-6 Grab																			
O&G, TOTAL, GRAV.....QUOTED....	1 @ \$ 39.00	\$ 39.00																			
PHENOLS, TOTAL.....QUOTED....	1 @ \$ 35.00	\$ 35.00																			
	\$ 74.00	\$ 74.00																			
RECEIVED																					
MAY - 9 1997																					
KOPPERS INDS., INC.																					
PORTLAND, OR																					
THANK YOU FOR DOING BUSINESS WITH CI.																					
TERMS- NET 15 DAYS		TOTAL	\$ 74.00																		

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Portland, OR 97283-0569

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# Columbia Inspection, Inc.

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TANK CALIBRATIONS

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San Pedro, CA (310) 833-1557

Fed. I.D. 93-0746019

- KOPPERS INDUSTRIES, INC.  
AMOS KAMERER  
7540 NW ST. HELENS ROAD  
PORTLAND, OR 97210-3663

INVOICE DATE: 04/11/97

INVOICE NO. 570461-1

04/01/97	For Services Rendered: REPORT NUMBER: 970461		
	Client's Project Name: WW Tanks 2-4-6		
	Date Submitted: 03/31/97		
	CI SAMPLE # CLIENTS ID# DESCRIPTION		
	970461-001-01 WW Tanks 2-4-6 Grab		
	970461-001-02 WW Tanks 2-4-6 Grab		
	ANALYSIS OF THE WASTE WATER SAMPLES.		
	PNAH 2.....QUOTED.... 1 @ \$ 145.00	\$ 145.00	
	Testing Cost:	\$ 145.00	\$ 145.00
<div>RECEIVED</div> <div>APR 14 1997</div> <div>KOPPERS IND. INC. ORIGINAL</div> <div>PORTLAND, OR</div> <div>THANK YOU FOR DOING BUSINESS WITH CI.</div>			
TERMS- NET 15 DAYS		TOTAL	\$ 145.00

ALL WORK PERFORMED IS SUBJECT TO THE  
TERMS AND CONDITIONS OF OUR CURRENT  
SCHEDULE OF RATES. LIABILITY IS LIMITED  
TO THE AMOUNT OF THIS INVOICE

Please state invoice numbers and remit to:

**Columbia Inspection, Inc.**

P.O. Box 83569, St. Johns Station  
Portland, OR 97283-0569

KI 37W REV 2 6M 6/90

CIRCLE TERMS ON INVOICE

GIL	DET.	S-DET.	LOC.	DEPT.	TAX	EMP #	MOVE # PO #	AMOUNT	INV #	DATE				
305	807		9270	910	0362			145.-	5704611	4/11/97				
									↓ A/P DEPARTMENT USE ONLY ↓					
									VENDOR NUMBER	014327008				
									TERMS. CODE	045	DUE DATE: 1/1			
									DIVISION	483	MONTH	4	AUDIT NUMBER	92700261
OK TO PAY						GROSS AMOUNT			145.-					
						DISCOUNT \$								
						NET \$								

IMPORTANT: CIRCLE TERMS ON INVOICE



# CERTIFICATE OF ANALYSIS

CLIENT: KOPPERS INDUSTRIES, INC.  
7540 NW ST. HELENS ROAD  
PORTLAND OR 97210-3663

PHONE: (503) 286-3681  
FAX: (503) 285-2831

DATE SUBMITTED: 03/10/97

PO#:

PROJECT NAME: Wastewater Tank Tests

CI SAMPLE #	CLIENTS ID#	DATE	TIME	DESCRIPTION
970336-001-01		03/10/97	1200	WW tks 1-3-5
970336-001-02		03/10/97	1200	WW tks 1-3-5

REPORT DATE: 03/20/97

REPORT NUMBER: 970336

PAGE: 1 OF 1

SAMPLE	TEST	PARAMETER	RESULT	UNIT	DETECTION LIMIT	ANALYST/DATE
970336-001-01	O&G, TOTAL, GRAV EPA 413.1/9070	TOTAL OIL & GREASE	ND	PPM	2	Dick R. 03/14/97
970336-001-02	PHENOLS, TOTAL EPA 420.1	TOTAL RECOVERABLE PHENOLICS	0.05	PPM	0.05	Dick R. 03/13/97

## RECEIVED

MAR 25 1997

KOPPERS INDS., INC.  
PORTLAND, OR

REVIEWED BY:

Richard D. Reid - Laboratory Director

# Columbia Inspection, Inc.

U.S. CUSTOMS APPROVED GAUGERS  
PETROLEUM AND ENVIRONMENTAL LABORATORY  
TANK CALIBRATIONS

## OFFICES

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San Pedro, CA (310) 833-1557

Fed. I.D. 93-0746019

KOPPERS INDUSTRIES, INC.  
AMOS KAMERER  
7540 NW ST. HELENS ROAD  
PORTLAND, OR 97210-3663

INVOICE DATE: 03/17/97

INVOICE NO. 570318

03/10/97	For Services Rendered: REPORT NUMBER: 970318  Client's Project Name: T-65 BLENDED PITCH ANALYSIS  Date Submitted: 03/06/97  Sample Marked: BATCH # 97-9 T-65 BLENDED PITCH SAMPLE   ANALYSIS OF THE WASTE WATER SAMPLE. SULFUR, X-RAY..... 1 @ \$ 30.00  Testing Cost:	\$ 30.00 ----- \$ 30.00	\$ 30.00
<b>RECEIVED</b>  MAR 19 1997  KOPPERS INDS., INC. PORTLAND, OR  <b>COPY</b>  THANK YOU FOR DOING BUSINESS WITH CI.			
TERMS- NET 15 DAYS		TOTAL	\$ 30.00

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Portland, OR 97283-0569

Koppers001867





# CERTIFICATE OF ANALYSIS

CLIENT: KOPPERS INDUSTRIES, INC.  
7540 NW ST. HELENS ROAD  
PORTLAND OR 97210-3663

PHONE: (503) 286-3681  
FAX: (503) 285-2831

DATE SUBMITTED: 03/06/97

PO#:

PROJECT NAME: T-65 BLENDED PITCH ANALYSIS

CI SAMPLE #	CLIENTS ID#	DATE	TIME	DESCRIPTION
970318-001-01		03/05/97	1400	BATCH # 97-9 T-65 BLENDED PITCH SAMPLE

REPORT DATE: 03/10/97


REPORT NUMBER: 970318

PAGE: 1 OF 1

SAMPLE	TEST	PARAMETER	RESULT	UNIT	DETECTION LIMIT	ANALYST
BATCH # 97-9 T-65 BLENDED PITCH SAMPLE						
	SULFUR, X-RAY ASTM D-4294	SULFUR	0.58	WT %	0.01	Martin L.

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REVIEWED BY:

  
Martin Little - Laboratory Manager

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KOPPERS INDUSTRIES, INC.  
AMOS KAMERER  
7540 NW ST. HELENS ROAD  
PORTLAND, OR 97210-3663

INVOICE DATE: 03/17/97

INVOICE NO. 570317

03/13/97	For Services Rendered: REPORT NUMBER: 970317			
	Client's Project Name:	WASTE WATER TANKS 1-3-5		
	Date Submitted: 03/06/97			
	CI SAMPLE #	CLIENTS ID#	DESCRIPTION	
	970317-001-01		WASTE WATER GRAB SAMPLE	
	970317-001-02		WASTE WATER GRAB SAMPLE	
	970317-001-03		WASTE WATER GRAB SAMPLE	
	ANALYSIS OF THE WASTE WATER SAMPLES.			
	O&G, TOTAL, GRAV.....QUOTED....	1 @ \$	39.00	\$ 39.00
	PHENOLS, TOTAL.....QUOTED....	1 @ \$	35.00	\$ 35.00
	PNAH 1.....	1 @ \$	145.00	\$ 145.00
	Testing Cost:			\$ 219.00
				\$ 219.00
THANK YOU FOR DOING BUSINESS WITH CI.				
TERMS- NET 15 DAYS			TOTAL	\$ 219.00

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7540 NW ST. HELENS ROAD  
PORTLAND OR 97210-3663

PHONE: (503) 286-3681  
FAX: (503) 285-2831

DATE SUBMITTED: 03/06/97

PO#:

PROJECT NAME: WASTE WATER TANKS 1-3-5

CI SAMPLE #	CLIENTS ID#	DATE	TIME	DESCRIPTION
970317-001-01		03/06/97	0800	WASTE WATER GRAB SAMPLE
970317-001-02		03/06/97	0800	WASTE WATER GRAB SAMPLE
970317-001-03		03/06/97	0800	WASTE WATER GRAB SAMPLE

REPORT DATE: 03/13/97

REPORT NUMBER: 970317

PAGE: 1 OF 2

SAMPLE	TEST	PARAMETER	RESULT	UNIT	DETECTION LIMIT	ANALYST
970317-001-01	O&G, TOTAL, GRAV EPA 413.1/9070	TOTAL OIL & GREASE	5.1	PPM	2	Dick R.
970317-001-02	PHENOLS, TOTAL EPA 420.1	TOTAL RECOVERABLE PHENOLICS	.051	PPM	0.05	Dick R.
970317-001-03	PNAH 1 EPA 8270M (SIM)	ACENAPHTHENE	0.0091	PPM	0.00005	Jacob F.
		ACENAPHTHYLENE	0.0010	PPM	0.00005	
		ANTHRACENE	0.013	PPM	0.00005	
		BENZO(A)ANTHRACENE	0.45	PPM	0.00005	
		BENZO(A)PYRENE	0.25	PPM	0.0005	
		BENZO(B)FLUORANTHENE	0.024	PPM	0.0005	
		BENZO(GHI)PERYLENE	0.23	PPM	0.0005	

REVIEWED BY:

Richard D. Reid - Laboratory Director

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# CERTIFICATE OF ANALYSIS

REPORT DATE: 03/13/97

REPORT NUMBER: 970317

PAGE: 2 OF 2

SAMPLE	TEST	PARAMETER	RESULT	UNIT	DETECTION	ANALYST
					LIMIT	
970317-001-03	PNAH 1 EPA 8270M (SIM)	BENZO(K)FLUORANTHENE	0.20	PPM	0.0005	Jacob F.
		CHRYSENE	0.055	PPM	0.00005	
		DIBENZO(AH)ANTHRACENE	0.057	PPM	0.0005	
		FLUORANTHENE	0.13	PPM	0.00005	
		FLUORENE	0.0085	PPM	0.00005	
		INDENO(1,2,3-CD)PYRENE	0.057	PPM	0.0005	
		NAPHTHALENE	0.00096	PPM	0.00005	
		PHENANTHRENE	0.058	PPM	0.00005	
		PYRENE	0.11	PPM	0.00005	
		SURROGATE	94%	%RECOVERY	50%-150%	

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KOPPERS INDUSTRIES, INC.  
AMOS KAMERER  
7540 NW ST. HELENS ROAD  
PORTLAND, OR 97210-3663

INVOICE DATE: 03/31/97

INVOICE NO. 570461

04/01/97	For Services Rendered: REPORT NUMBER: 970461			
	Client's Project Name: WW Tanks 2-4-6			
	Date Submitted: 03/31/97			
	CI SAMPLE #	CLIENTS ID#	DESCRIPTION	
	970461-001-01		WW Tanks 2-4-6 Grab	
	970461-001-02		WW Tanks 2-4-6 Grab	
	ANALYSIS OF THE WASTE WATER SAMPLES.			
	O&G, TOTAL, GRAV.....QUOTED.... 1 @ \$ 39.00			\$ 39.00
	PHENOLS, TOTAL.....QUOTED.... 1 @ \$ 35.00			\$ 35.00
	Testing Cost:			\$ 74.00
				\$ 74.00
RECEIVED				
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PORTLAND OR			ORIGINAL	
THANK YOU FOR DOING BUSINESS WITH CI.				
TERMS- NET 15 DAYS			TOTAL	\$ 74.00

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KI 37W REV 2 6M 6/90

CIRCLE TERMS ON INVOICE

GIL	DET.	S-DET.	LOC.	DEPT.	TAX	EMP #	MOVE # PO #	AMOUNT	INV #	DATE				
305	807		9270	910	0362			74 -	570461	3/31/97				
									↓ A/P DEPARTMENT USE ONLY ↓					
									VENDOR NUMBER	014327008				
									TERMS. CODE	045	DUE DATE: / /			
									DIVISION	483	MONTH	4	AUDIT NUMBER	92700235
OK TO PAY <i>[Signature]</i>									GROSS AMOUNT		74 -			
									DISCOUNT \$					
									NET \$					

IMPORTANT: CIRCLE TERMS ON INVOICE

Koppers001872



# CERTIFICATE OF ANALYSIS

CLIENT: KOPPERS INDUSTRIES, INC.  
7540 NW ST. HELENS ROAD  
PORTLAND OR 97210-3663

PHONE: (503) 286-3681  
FAX: (503) 285-2831

DATE SUBMITTED: 03/31/97

PO#:

PROJECT NAME: WW Tanks 2-4-6

CI SAMPLE #	CLIENTS ID#	DATE	TIME	DESCRIPTION
970461-001-01		03/31/97		WW Tanks 2-4-6 Grab
970461-001-02		03/31/97		WW Tanks 2-4-6 Grab

REPORT DATE: 04/01/97

REPORT NUMBER: 970461

PAGE: 1 OF 1

SAMPLE	TEST	PARAMETER	RESULT	UNIT	DETECTION LIMIT	ANALYST
970461-001-01	O&G, TOTAL, GRAV EPA 413.1/9070	TOTAL OIL & GREASE	3.8	PPM	2	Dick R.
970461-001-02	PHENOLS, TOTAL EPA 420.1	TOTAL RECOVERABLE PHENOLICS	0.17	PPM	0.05	Dick R.

ORIGINAL

REVIEWED BY:

Richard D. Reid - Laboratory Director

Columbia Inspection, Inc. 7133 N Lombard St. - Portland, OR 97203 (503) 286-9464 Fax (503) 286-5355

Koppers001873

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- KOPPERS INDUSTRIES, INC.  
AMOS KAMERER  
7540 NW ST. HELENS ROAD  
PORTLAND, OR 97210-3663

INVOICE DATE: 03/21/97

INVOICE NO. 570364

03/20/97	For Services Rendered: REPORT NUMBER: 970364 Client's Project Name: WTKs 2,4,6 Date Submitted: 03/14/97 CI SAMPLE # CLIENTS ID# DESCRIPTION ----- 970364-001-01 WWT 2,4,6 Wastewater Grab 970364-001-02 WWT 2,4,6 Wastewater Grab  ANALYSIS OF THE WASTE WATER SAMPLES. O&G, TOTAL, GRAV*.....QUOTED..... 1 @ \$ 39.00 PHENOLS, TOTAL.....QUOTED..... 1 @ \$ 35.00  Testing Cost:		
		\$ 39.00 \$ 35.00 ----- \$ 74.00	\$ 74.00
<b>RECEIVED ORIGINAL</b> MAR 24 1997 KOPPERS INDUS., INC. PORTLAND, OR  THANK YOU FOR DOING BUSINESS WITH CI.			
TERMS- NET 15 DAYS		TOTAL	\$ 74.00

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KI 37W REV 2 6M 6/90

CIRCLE TERMS ON INVOICE

GIL	DET.	S-DET.	LOC.	DEPT.	TAX	EMP #	MOVE # PO #	AMOUNT	INV #	DATE				
305	807		9270	910	0362			74 -	570364	3/21/97				
									↓ A/P DEPARTMENT USE ONLY ↓					
									VENDOR NUMBER	014327008				
									TERMS, CODE	045	DUE DATE: / /			
									DIVISION	483	MONTH	3	AUDIT NUMBER	92700210
OK TO PAY									GROSS AMOUNT		74 -			
									DISCOUNT \$					
									NET \$					

IMPORTANT: CIRCLE TERMS ON INVOICE



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CLIENT: KOPPERS INDUSTRIES, INC.  
7540 NW ST. HELENS ROAD  
PORTLAND OR 97210-3663

PHONE: (503) 286-3681  
FAX: (503) 285-2831

DATE SUBMITTED: 03/14/97

PO#:

PROJECT NAME: WWTks 2,4,6

CI SAMPLE #	CLIENTS ID#	DATE	TIME	DESCRIPTION
970364-001-01	WWT 2,4,6	03/13/97	1430	Wastewater Grab
970364-001-02	WWT 2,4,6	03/13/97	1430	Wastewater Grab

REPORT DATE: 03/20/97

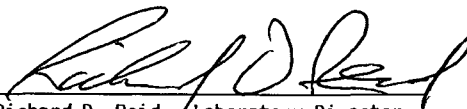
REPORT NUMBER: 970364

PAGE: 1 OF 1

SAMPLE	TEST	PARAMETER	RESULT	UNIT	DETECTION LIMIT	ANALYST
970364-001-01	O&G, TOTAL, GRAV EPA 413.1/9070	TOTAL OIL & GREASE	ND	PPM	2	Dick R.
970364-001-02	PHENOLS, TOTAL EPA 420.1	TOTAL RECOVERABLE PHENOLICS	0.14	PPM	0.05	Dick R.

ORIGINAL

REVIEWED BY:

  
Richard D. Reid Laboratory Director



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INVOICE DATE: 03/21/97

INVOICE NO. 570364

03/20/97	For Services Rendered: REPORT NUMBER: 970364			
	Client's Project Name:	WWTks 2,4,6		
	Date Submitted: 03/14/97			
	CI SAMPLE #	CLIENTS ID#	DESCRIPTION	
	970364-001-01	WWT 2,4,6	Wastewater Grab	
	970364-001-02	WWT 2,4,6	Wastewater Grab	
	ANALYSIS OF THE WASTE WATER SAMPLES.			
	O&G, TOTAL, GRAV*.....QUOTED....	1 @ \$	39.00	\$ 39.00
	PHENOLS, TOTAL.....QUOTED....	1 @ \$	35.00	\$ 35.00
	Testing Cost:			\$ 74.00
				\$ 74.00
	RECEIVED MAR 24 1997 KOPPERS INDS., INC. PORTLAND, OR			COPY
	THANK YOU FOR DOING BUSINESS WITH CI.			
TERMS- NET 15 DAYS			TOTAL	\$ 74.00

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CLIENT: KOPPERS INDUSTRIES, INC.  
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PORTLAND OR 97210-3663

PHONE: (503) 286-3681  
FAX: (503) 285-2831

DATE SUBMITTED: 03/14/97

PO#:

PROJECT NAME: WWTks 2,4,6

CI SAMPLE #	CLIENTS ID#	DATE	TIME	DESCRIPTION
970364-001-01	WWT 2,4,6	03/13/97	1430	Wastewater Grab
970364-001-02	WWT 2,4,6	03/13/97	1430	Wastewater Grab

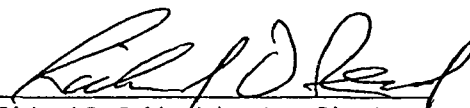
REPORT DATE: 03/20/97

REPORT NUMBER: 970364

PAGE: 1 OF 1

SAMPLE	TEST	PARAMETER	RESULT	UNIT	DETECTION LIMIT	ANALYST
970364-001-01	O&G, TOTAL, GRAV EPA 413.1/9070	TOTAL OIL & GREASE	ND	PPM	2	Dick R.
970364-001-02	PHENOLS, TOTAL EPA 420.1	TOTAL RECOVERABLE PHENOLICS	0.14	PPM	0.05	Dick R.

REVIEWED BY:

  
Richard D. Reid Laboratory Director

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## TANK CALIBRATIONS

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INVOICE DATE: 03/21/97

INVOICE NO. 570336

03/20/97	For Services Rendered: REPORT NUMBER: 970336			
	Client's Project Name: Wastewater Tank Tests			
	Date Submitted: 03/10/97			
	CI SAMPLE #	CLIENTS ID#	DESCRIPTION	
	970336-001-01		WW tks 1-3-5	
	970336-001-02		WW tks 1-3-5	
	ANALYSIS OF THE WASTE WATER SAMPLES.			
	O&G, TOTAL, GRAV*.....QUOTED.... 1 @ \$ 39.00			\$ 39.00
	PHENOLS, TOTAL.....QUOTED.... 1 @ \$ 35.00			\$ 35.00
	Testing Cost:			\$ 74.00
				\$ 74.00
<b>RECEIVED</b> MAR 24 1997 KOPPERS INDS. INC. PORTLAND, OR				
THANK YOU FOR DOING BUSINESS WITH CI.				
TERMS- NET 15 DAYS				TOTAL
				\$ 74.00

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KI 37W REV 2 6M 6/90

CIRCLE TERMS ON INVOICE

GIL	DET.	S-DET.	LOC.	DEPT.	TAX	EMP #	MOVE # PO #	AMOUNT	
305	807		9270	910	0362			74 -	
OK TO PAY									
GROSS AMOUNT									74 -
DISCOUNT \$									
NET \$									
INV # 570336 DATE 3/21/97									
↓ A/P DEPARTMENT USE ONLY ↓									
VENDOR NUMBER									014327008
TERMS CODE									045
DUE DATE									1/1
DIVISION			MONTH			AUDIT NUMBER			
483			3			92700209			

IMPORTANT: CIRCLE TERMS ON INVOICE



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PORTLAND OR 97210-3663

PHONE: (503) 286-3681  
FAX: (503) 285-2831

DATE SUBMITTED: 03/10/97

PO#:

PROJECT NAME: Wastewater Tank Tests

CI SAMPLE #	CLIENTS ID#	DATE	TIME	DESCRIPTION
970336-001-01		03/10/97	1200	WW tks 1-3-5
970336-001-02		03/10/97	1200	WW tks 1-3-5


REPORT DATE: 03/20/97

REPORT NUMBER: 970336

PAGE: 1 OF 1

SAMPLE	TEST	PARAMETER	RESULT	UNIT	DETECTION LIMIT	ANALYST
970336-001-01	O&G, TOTAL, GRAV EPA 413.1/9070	TOTAL OIL & GREASE	ND	PPM	2	Dick R.
970336-001-02	PHENOLS, TOTAL EPA 420.1	TOTAL RECOVERABLE PHENOLICS	0.05	PPM	0.05	Dick R.

REVIEWED BY:

  
Richard D. Reid - Laboratory Director

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KOPPERS INDUSTRIES, INC.  
AMOS KAMERER  
7540 NW ST. HELENS ROAD  
PORTLAND, OR 97210-3663

INVOICE DATE: 03/21/97

INVOICE NO. 570336

03/20/97	<p>For Services Rendered: REPORT NUMBER: 970336</p> <p>Client's Project Name: Wastewater Tank Tests</p> <p>Date Submitted: 03/10/97</p> <table><thead><tr><th>CI SAMPLE #</th><th>CLIENTS ID#</th><th>DESCRIPTION</th></tr></thead><tbody><tr><td>970336-001-01</td><td></td><td>WW tks 1-3-5</td></tr><tr><td>970336-001-02</td><td></td><td>WW tks 1-3-5</td></tr></tbody></table> <p>ANALYSIS OF THE WASTE WATER SAMPLES.</p> <table><tbody><tr><td>O&amp;G, TOTAL, GRAV*.....QUOTED....</td><td>1 @ \$ 39.00</td><td>\$ 39.00</td></tr><tr><td>PHENOLS, TOTAL.....QUOTED....</td><td>1 @ \$ 35.00</td><td>\$ 35.00</td></tr><tr><td colspan="2">Testing Cost:</td><td>\$ 74.00</td></tr></tbody></table> <p><b>RECEIVED</b></p> <p>MAR 24 1997</p> <p>KOPPERS INDS. INC. PORTLAND, OR</p> <p><b>COPY</b></p> <p>THANK YOU FOR DOING BUSINESS WITH CI.</p>	CI SAMPLE #	CLIENTS ID#	DESCRIPTION	970336-001-01		WW tks 1-3-5	970336-001-02		WW tks 1-3-5	O&G, TOTAL, GRAV*.....QUOTED....	1 @ \$ 39.00	\$ 39.00	PHENOLS, TOTAL.....QUOTED....	1 @ \$ 35.00	\$ 35.00	Testing Cost:		\$ 74.00		
CI SAMPLE #	CLIENTS ID#	DESCRIPTION																			
970336-001-01		WW tks 1-3-5																			
970336-001-02		WW tks 1-3-5																			
O&G, TOTAL, GRAV*.....QUOTED....	1 @ \$ 39.00	\$ 39.00																			
PHENOLS, TOTAL.....QUOTED....	1 @ \$ 35.00	\$ 35.00																			
Testing Cost:		\$ 74.00																			
TERMS- NET 15 DAYS		TOTAL	\$ 74.00																		

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Portland, OR 97283-0569

Koppers001880



# CERTIFICATE OF ANALYSIS

CLIENT: KOPPERS INDUSTRIES, INC.  
7540 NW ST. HELENS ROAD  
PORTLAND OR 97210-3663

PHONE: (503) 286-3681  
FAX: (503) 285-2831

DATE SUBMITTED: 03/10/97

PO#:

PROJECT NAME: Wastewater Tank Tests

CI SAMPLE #	CLIENTS ID#	DATE	TIME	DESCRIPTION
970336-001-01		03/10/97	1200	WW tks 1-3-5
970336-001-02		03/10/97	1200	WW tks 1-3-5

REPORT DATE: 03/20/97

REPORT NUMBER: 970336

PAGE: 1 OF 1

SAMPLE	TEST	PARAMETER	RESULT	UNIT	DETECTION LIMIT	ANALYST
970336-001-01	O&G, TOTAL, GRAV EPA 413.1/9070	TOTAL OIL & GREASE	ND	PPM	2	Dick R.
970336-001-02	PHENOLS, TOTAL EPA 420.1	TOTAL RECOVERABLE PHENOLICS	0.05	PPM	0.05	Dick R.

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REVIEWED BY:

Richard D. Reid - Laboratory Director

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Koppers001881

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KOPPERS INDUSTRIES, INC.  
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7540 NW ST. HELENS ROAD  
PORTLAND, OR 97210-3663

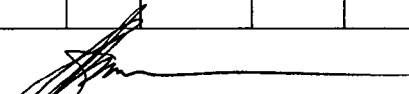
**INVOICE NO. 570401**

ALL WORK PERFORMED IS SUBJECT TO THE  
TERMS AND CONDITIONS OF OUR CURRENT  
SCHEDULE OF RATES. LIABILITY IS LIMITED  
TO THE AMOUNT OF THIS INVOICE

*Columbia Inspection, Inc.*

P.O. Box 83569, St. Johns Station  
Portland, OR 97283-0569

CIRCLE TERMS ON INVOICE

GIL	DET.	S-DET.	LOC.	DEPT.	TAX	EMP #	MOVE # PO #	AMOUNT	CIRCLE TERMS ON INVOICE	
305	807		9270	910	0362			74 -	INV # 570401	DATE 3/21/97
									↓ A/P DEPARTMENT USE ONLY ↓	
									VENDOR NUMBER	014327008
									TERMS. CODE	45 DUE DATE: / /
OK TO PAY 						GROSS AMOUNT		74 -	DIVISION	
						DISCOUNT \$			MONTH	
						NET \$			AUDIT NUMBER	
<b>IMPORTANT: CIRCLE TERMS ON INVOICE</b>								483	3	92700208

Koppers001882



# CERTIFICATE OF ANALYSIS

CLIENT: KOPPERS INDUSTRIES, INC.  
7540 NW ST. HELENS ROAD  
PORTLAND OR 97210-3663

PHONE: (503) 286-3681  
FAX: (503) 285-2831

DATE SUBMITTED: 03/19/97

PO#:

PROJECT NAME: WW Tks 1,3,5

CI SAMPLE #	CLIENTS ID#	DATE	TIME	DESCRIPTION
970401-001-01		03/19/97	1400	Wastewater Grab from Tanks 1,3,5
970401-001-02		03/19/97	1400	Wastewater Grab from Tanks 1,3,5


REPORT DATE: 03/20/97

REPORT NUMBER: 970401

PAGE: 1 OF 1

SAMPLE	TEST	PARAMETER	RESULT	UNIT	DETECTION LIMIT	ANALYST
970401-001-01	O&G, TOTAL, GRAV EPA 413.1/9070	TOTAL OIL & GREASE	4.1	PPM	2	Dick R.
970401-001-02	PHENOLS, TOTAL EPA 420.1	TOTAL RECOVERABLE PHENOLICS	0.08	PPM	0.05	Dick R.

REVIEWED BY:

  
Richard D. Reid - Laboratory Director

ORIGINAL



# Columbia Inspection, Inc.

U.S. CUSTOMS APPROVED GAUGERS  
PETROLEUM AND ENVIRONMENTAL LABORATORY  
TANK CALIBRATIONS

## OFFICES

Portland, OR (503) 286-9464  
Tacoma, WA (206) 922-8781  
Martinez, CA (510) 229-0360  
San Pedro, CA (310) 833-1557

Fed. I.D. 93-0746019

KOPPERS INDUSTRIES, INC.  
AMOS KAMERER  
7540 NW ST. HELENS ROAD  
PORTLAND, OR 97210-3663

INVOICE DATE: 03/21/97

INVOICE NO. 570401

03/20/97	For Services Rendered: REPORT NUMBER: 970401			
	Client's Project Name: WW Tks 1,3,5			
	Date Submitted: 03/19/97			
	CI SAMPLE #	CLIENTS ID#	DESCRIPTION	
	970401-001-01		Wastewater Grab from Tanks 1,3,5	
	970401-001-02		Wastewater Grab from Tanks 1,3,5	
	ANALYSIS OF THE WASTE WATER SAMPLES.			
	O&G, TOTAL, GRAV*.....QUOTED.... 1 @ \$		39.00	\$ 39.00
	PHENOLS, TOTAL*.....QUOTED.... 1 @ \$		35.00	\$ 35.00
	Testing Cost:			\$ 74.00
				\$ 74.00
<b>RECEIVED</b>  MAR 24 1997  KOPPERS INDS., INC. PORTLAND, OR		<b>COPY</b>		
THANK YOU FOR DOING BUSINESS WITH CI.				
TERMS- NET 15 DAYS			TOTAL	\$ 74.00

ALL WORK PERFORMED IS SUBJECT TO THE  
TERMS AND CONDITIONS OF OUR CURRENT  
SCHEDULE OF RATES. LIABILITY IS LIMITED  
TO THE AMOUNT OF THIS INVOICE

Please state invoice numbers and remit to:

**Columbia Inspection, Inc.**

P.O. Box 83569, St. Johns Station  
Portland, OR 97283-0569

Koppers001884



# CERTIFICATE OF ANALYSIS

CLIENT: KOPPERS INDUSTRIES, INC.  
7540 NW ST. HELENS ROAD  
PORTLAND OR 97210-3663

PHONE: (503) 286-3681  
FAX: (503) 285-2831

DATE SUBMITTED: 03/19/97

PO#:

PROJECT NAME: WW Tks 1,3,5

CI SAMPLE #	CLIENTS ID#	DATE	TIME	DESCRIPTION
970401-001-01		03/19/97	1400	Wastewater Grab from Tanks 1,3,5
970401-001-02		03/19/97	1400	Wastewater Grab from Tanks 1,3,5

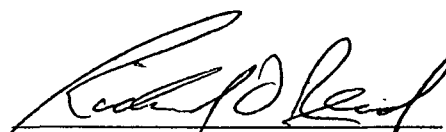
REPORT DATE: 03/20/97

REPORT NUMBER: 970401

PAGE: 1 OF 1

SAMPLE	TEST	PARAMETER	RESULT	UNIT	DETECTION LIMIT	ANALYST
970401-001-01	O&G, TOTAL, GRAV EPA 413.1/9070	TOTAL OIL & GREASE	4.1	PPM	2	Dick R.
970401-001-02	PHENOLS, TOTAL EPA 420.1	TOTAL RECOVERABLE PHENOLICS	0.08	PPM	0.05	Dick R.

REVIEWED BY:

  
Richard D. Reid - Laboratory Director

COPY

# Columbia Inspection, Inc.

U.S. CUSTOMS APPROVED GAUGERS  
PETROLEUM AND ENVIRONMENTAL LABORATORY  
TANK CALIBRATIONS

## OFFICES

Portland, OR (503) 286-9464  
Tacoma, WA (206) 922-8781  
Martinez, CA (510) 229-0360  
San Pedro, CA (310) 833-1557

Fed. I.D. 93-0746019

- KOPPERS INDUSTRIES, INC.  
AMOS KAMERER  
7540 NW ST. HELENS ROAD  
PORTLAND, OR 97210-3663

INVOICE DATE: 03/17/97

INVOICE NO. 570318

03/10/97	For Services Rendered: REPORT NUMBER: 970318		
	Client's Project Name: T-65 BLENDED PITCH ANALYSIS		
	Date Submitted: 03/06/97		
	Sample Marked: BATCH # 97-9 T-65 BLENDED PITCH SAMPLE		
	ANALYSIS OF THE WASTE WATER SAMPLE.		
	SULFUR, X-RAY..... 1 @ \$ 30.00	\$ 30.00	
	Testing Cost:	\$ 30.00	\$ 30.00
<b>RECEIVED</b> MAR 19 1997 KOPPERS INDS., INC. PORTLAND, OR		<b>ORIGINAL</b>	
THANK YOU FOR DOING BUSINESS WITH CI.			
TERMS- NET 15 DAYS		TOTAL	\$ 30.00

ALL WORK PERFORMED IS SUBJECT TO THE  
TERMS AND CONDITIONS OF OUR CURRENT  
SCHEDULE OF RATES. LIABILITY IS LIMITED  
TO THE AMOUNT OF THIS INVOICE

Please state invoice numbers and remit to:

**Columbia Inspection, Inc.**

P.O. Box 83569, St. Johns Station  
Portland, OR 97283-0569

KI 37W REV 2 6M 6/90

CIRCLE TERMS ON INVOICE

GIL	DET.	S-DET.	LOC.	DEPT.	TAX	EMP #	MOVE # PO #	AMOUNT	INV #	DATE	
305	807		9270	910	0362			30 -	570318	3/17/97	
									↓ A/P DEPARTMENT USE ONLY ↓		
									VENDOR NUMBER	014327008	
									TERMS. CODE	045 DUE DATE: / /	
									DIVISION	MONTH	AUDIT NUMBER
									483	3	
OK TO PAY									GROSS AMOUNT 30 -		
									DISCOUNT \$		
									NET \$		
IMPORTANT: CIRCLE TERMS ON INVOICE											

Koppers001886



# CERTIFICATE OF ANALYSIS

CLIENT: KOPPERS INDUSTRIES, INC.  
7540 NW ST. HELENS ROAD  
PORTLAND OR 97210-3663

PHONE: (503) 286-3681  
FAX: (503) 285-2831

DATE SUBMITTED: 03/06/97

PO#:

PROJECT NAME: T-65 BLENDED PITCH ANALYSIS

CI SAMPLE #	CLIENTS ID#	DATE	TIME	DESCRIPTION
970318-001-01		03/05/97	1400	BATCH # 97-9 T-65 BLENDED PITCH SAMPLE

REPORT DATE: 03/10/97

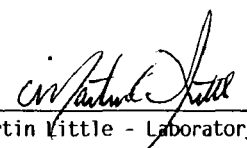
REPORT NUMBER: 970318

PAGE: 1 OF 1

SAMPLE	TEST	PARAMETER	RESULT	UNIT	DETECTION LIMIT	ANALYST
BATCH # 97-9 T-65 BLENDED PITCH SAMPLE						
	SULFUR, X-RAY ASTM D-4294	SULFUR	0.58	WT %	0.01	Martin L.

ORIGINAL

REVIEWED BY:

  
Martin Little - Laboratory Manager

## TANK CALIBRATIONS

## OFFICES

KOPPERS INDUSTRIES, INC.  
AMOS KAMERER  
7540 NW ST. HELENS ROAD  
PORTLAND, OR 97210-3663

Portland, OR (503) 286-9464  
Tacoma, WA (206) 922-8781  
Martinez, CA (510) 229-0360  
San Pedro, CA (310) 833-1557

Fed. I.D. 93-0746019

INVOICE DATE: 03/17/97

INVOICE NO. 570317

03/13/97	For Services Rendered: REPORT NUMBER: 970317			
	Client's Project Name: WASTE WATER TANKS 1-3-5			
	Date Submitted: 03/06/97			
	CI SAMPLE #	CLIENTS ID#	DESCRIPTION	
	970317-001-01		WASTE WATER GRAB SAMPLE	
	970317-001-02		WASTE WATER GRAB SAMPLE	
	970317-001-03		WASTE WATER GRAB SAMPLE	
	ANALYSIS OF THE WASTE WATER SAMPLES.			
	O&G, TOTAL, GRAV.....QUOTED.... 1 @ \$ 39.00			\$ 39.00
	PHENOLS, TOTAL.....QUOTED.... 1 @ \$ 35.00			\$ 35.00
	PNAH 1..... 1 @ \$ 145.00			\$ 145.00
	Testing Cost:			\$ 219.00
				\$ 219.00
<b>RECEIVED</b>				
<b>ORIGINAL</b>				
MAR 19 1997				
KOPPERS INDS., INC. PORTLAND, OR				
THANK YOU FOR DOING BUSINESS WITH CI.				
TERMS- NET 15 DAYS				TOTAL
				\$ 219.00

ALL WORK PERFORMED IS SUBJECT TO THE  
TERMS AND CONDITIONS OF OUR CURRENT  
SCHEDULE OF RATES. LIABILITY IS LIMITED  
TO THE AMOUNT OF THIS INVOICE

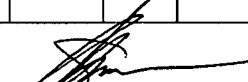
Please state invoice numbers and remit to:

**Columbia Inspection, Inc.**

P.O. Box 83569, St. Johns Station  
Portland, OR 97283-0569

KI 37W REV 2 6M 6/90

CIRCLE TERMS ON INVOICE

GIL	DET.	S-DET.	LOC.	DEPT.	TAX	EMP #	MOVE # PO #	AMOUNT	INV #	DATE
305	807		9270	910	0362			219 -	570317	3/17/97
OK TO PAY 									↓ A/P DEPARTMENT USE ONLY ↓	
GROSS AMOUNT 219 -									VENDOR NUMBER	014327008
DISCOUNT \$									TERMS CODE	045
NET \$									DUE DATE	/ /
IMPORTANT: CIRCLE TERMS ON INVOICE									DIVISION	483
									MONTH	3
									AUDIT NUMBER	92100207



# CERTIFICATE OF ANALYSIS

CLIENT: KOPPERS INDUSTRIES, INC.  
7540 NW ST. HELENS ROAD  
PORTLAND OR 97210-3663

PHONE: (503) 286-3681  
FAX: (503) 285-2831

DATE SUBMITTED: 03/06/97

PO#:

PROJECT NAME: WASTE WATER TANKS 1-3-5

CI SAMPLE #	CLIENTS ID#	DATE	TIME	DESCRIPTION
970317-001-01		03/06/97	0800	WASTE WATER GRAB SAMPLE
970317-001-02		03/06/97	0800	WASTE WATER GRAB SAMPLE
970317-001-03		03/06/97	0800	WASTE WATER GRAB SAMPLE


REPORT DATE: 03/13/97

REPORT NUMBER: 970317

PAGE: 1 OF 2

SAMPLE	TEST	PARAMETER	RESULT	UNIT	DETECTION LIMIT	ANALYST
970317-001-01	O&G, TOTAL, GRAV EPA 413.1/9070	TOTAL OIL & GREASE	5.1	PPM	2	Dick R.
970317-001-02	PHENOLS, TOTAL EPA 420.1	TOTAL RECOVERABLE PHENOLICS	.051	PPM	0.05	Dick R.
970317-001-03	PNAH 1 EPA 8270M (SIM)	ACENAPHTHENE	0.0091	PPM	0.00005	Jacob F.
		ACENAPHTHYLENE	0.0010	PPM	0.00005	
		ANTHRACENE	0.013	PPM	0.00005	
		BENZO(A)ANTHRACENE	0.45	PPM	0.00005	
		BENZO(A)PYRENE	0.25	PPM	0.0005	
		BENZO(B)FLUORANTHENE	0.024	PPM	0.0005	
		BENZO(GHI)PERYLENE	0.23	PPM	0.0005	

REVIEWED BY:

  
Richard D. Reid - Laboratory Director

ORIGINAL

# CERTIFICATE OF ANALYSIS

REPORT DATE: 03/13/97

REPORT NUMBER: 970317

PAGE: 2 OF 2

SAMPLE	TEST	PARAMETER	RESULT	UNIT	DETECTION	ANALYST
					LIMIT	
970317-001-03	PNAH 1 EPA 8270M (SIM)	BENZO(K)FLUORANTHENE	0.20	PPM	0.0005	Jacob F.
		CHRYSENE	0.055	PPM	0.00005	
		DIBENZO(AH)ANTHRACENE	0.057	PPM	0.0005	
		FLUORANTHENE	0.13	PPM	0.00005	
		FLUORENE	0.0085	PPM	0.00005	
		INDENO(1,2,3-CD)PYRENE	0.057	PPM	0.0005	
		NAPHTHALENE	0.00096	PPM	0.00005	
		PHENANTHRENE	0.058	PPM	0.00005	
		PYRENE	0.11	PPM	0.00005	
		SURROGATE	94%	%RECOVERY	50%-150%	

ORIGINAL

TANK CALIBRATIONS

OFFICES

KOPPERS INDUSTRIES, INC.  
AMOS KAMERER  
7540 NW ST. HELENS ROAD  
PORTLAND, OR 97210-3663

Portland, OR (503) 286-9464  
Tacoma, WA (206) 922-8781  
Martinez, CA (510) 229-0360  
San Pedro, CA (310) 833-1557

Fed. I.D. 93-0746019

INVOICE DATE: 03/10/97

INVOICE NO. 570326

03/07/97	For Services Rendered: REPORT NUMBER: 970326		
	Client's Project Name: WW Tanks 2,4, & 6		
	Date Submitted: 03/07/97		
	CI SAMPLE # CLIENTS ID# DESCRIPTION		
	970326-001-01 Wastewater Grab from Tanks 2,4, & 6		
	970326-001-02 Wastewater Grab from Tanks 2,4, & 6		
	ANALYSIS OF THE WASTE WATER SAMPLES.		
	O&G, TOTAL, GRAV.....QUOTED.... 1 @ \$ 39.00	\$ 39.00	
	PHENOLS, TOTAL.....QUOTED.... 1 @ \$ 35.00	\$ 35.00	
	Testing Cost:	\$ 74.00	\$ 74.00
RECEIVED		ORIGINAL	
MAR 11 1997			
KOPPERS INDS., INC.			
PORTLAND, OR			
THANK YOU FOR DOING BUSINESS WITH CI.			
TERMS- NET 15 DAYS		TOTAL	\$ 74.00

ALL WORK PERFORMED IS SUBJECT TO THE  
TERMS AND CONDITIONS OF OUR CURRENT  
SCHEDULE OF RATES. LIABILITY IS LIMITED  
TO THE AMOUNT OF THIS INVOICE

Please state invoice numbers and remit to:

Columbia Inspection, Inc.

P.O. Box 83569, St. Johns Station  
Portland, OR 97283-0569

KI 37W REV 2 6M 6/90

CIRCLE TERMS ON INVOICE

GIL	DET.	S-DET.	LOC.	DEPT.	TAX	EMP #	MOVE # PO #	AMOUNT	INV #	DATE				
305	807		9270	910	0362			74 -	570326	3 / 10 / 97				
									↓ A/P DEPARTMENT USE ONLY ↓					
									VENDOR NUMBER	014327008				
									TERMS. CODE	045	DUE DATE: / /			
									DIVISION	483	MONTH	3	AUDIT NUMBER	92700177
OK TO PAY <i>Lynda Robinson</i>									GROSS AMOUNT	74 -				
									DISCOUNT \$					
IMPORTANT: CIRCLE TERMS ON INVOICE									NET \$					





# CERTIFICATE OF ANALYSIS

CLIENT: KOPPERS INDUSTRIES, INC.  
7540 NW ST. HELENS ROAD  
PORTLAND OR 97210-3663

PHONE: (503) 286-3681  
FAX: (503) 285-2831

DATE SUBMITTED: 03/07/97

PO#:

PROJECT NAME: WW Tanks 2,4, &6

CI SAMPLE #	CLIENTS ID#	DATE	TIME	DESCRIPTION
970326-001-01		03/07/97	0800	Wastewater Grab from Tanks 2,4, & 6
970326-001-02		03/07/97	0800	Wastewater Grab from Tanks 2,4, & 6

REPORT DATE: 03/07/97

REPORT NUMBER: 970326

PAGE: 1 OF 1

SAMPLE	TEST	PARAMETER	RESULT	UNIT	DETECTION LIMIT	ANALYST
970326-001-01	O&G, TOTAL, GRAV EPA 413.1/9070	TOTAL OIL & GREASE	6.8	PPM	2	Dick R.
970326-001-02	PHENOLS, TOTAL EPA 420.1	TOTAL RECOVERABLE PHENOLICS	0.093	PPM	0.05	Dick R.

REVIEWED BY:

Richard D. Reid - Laboratory Director

ORIGINAL

# Columbia Inspection, Inc.

U.S. CUSTOMS APPROVED GAUGERS  
PETROLEUM AND ENVIRONMENTAL LABORATORY  
TANK CALIBRATIONS

**KOPPERS INDUSTRIES, INC.**  
**AMOS KAMERER**  
**7540 NW ST. HELENS ROAD**  
**PORTLAND, OR 97210-3663**

## OFFICES

Portland, OR (503) 286-9464  
Fife, WA (206) 922-8781  
Martinez, CA (510) 229-0360  
San Pedro, CA (310) 833-1557

Fed. I.D. 93-0746019

INVOICE DATE: 02/27/97

Invoice number: 570252

Date	Description of services	Amount	
02/27/97	For Services Rendered: REPORT NUMBER: 970252		
	Client's Project Name: WASTE WATER ANALYSIS FOR TANKS 2, 4, & 6		
	Date Submitted: 02/21/97		
	CI SAMPLE #    CLIENTS ID#    DESCRIPTION		
	-----		
	970252-001-01    WASTE WATER GRAB SAMPLE		
	970252-001-02    WASTE WATER GRAB SAMPLE		
	ANALYSIS OF THE WASTE WATER SAMPLES.		
	O&G, TOTAL, GRAV.....QUOTED.... 1 @ \$ 39.00	\$ 39.00	
	PHENOLS, TOTAL.....QUOTED.... 1 @ \$ 35.00	\$ 35.00	
	Testing Cost:	\$ 74.00	\$ 74.00
	<b>RECEIVED</b>		
	FEB 28 1997		
	KOPPERS INDUS., INC. PORTLAND, OR		
	THANK YOU FOR DOING BUSINESS WITH CI.		
	Terms - Net 15 Days	Total	\$ 74.00

ALL WORK PERFORMED IS SUBJECT TO THE  
TERMS AND CONDITIONS OF OUR CURRENT  
SCHEDULE OF RATES. LIABILITY IS LIMITED  
TO THE AMOUNT OF THIS INVOICE

Please state invoice number and remit to:  
**Columbia Inspection, Inc.**  
Attn: Accounts Receivable  
P.O. Box 83569, St. Johns Station  
Portland, OR 97283

KI 37W REV 2 6M 6/90

## CIRCLE TERMS ON INVOICE

GIL	DET.	S-DET.	LOC.	DEPT.	TAX	EMP #	MOVE # PO #	AMOUNT						
305	807		9270	910	0362			74 -						
<div style="display: flex; justify-content: space-between;"> <div> <p>OK TO PAY <i>[Signature]</i></p> <p><b>IMPORTANT: CIRCLE TERMS ON INVOICE</b></p> </div> <div> <p>GROSS AMOUNT 74 -</p> <p>DISCOUNT \$</p> <p>NET \$</p> </div> </div>								<p>INV # 570252 DATE 2/27/97</p> <p>↓ A/P DEPARTMENT USE ONLY ↓</p> <p>VENDOR NUMBER 014327008</p> <p>TERMS CODE 045 DUE DATE: / /</p> <table border="1" style="width: 100%;"> <tr> <th>DIVISION</th> <th>MONTH</th> <th>AUDIT NUMBER</th> </tr> <tr> <td>483</td> <td>3</td> <td>92700153</td> </tr> </table>	DIVISION	MONTH	AUDIT NUMBER	483	3	92700153
DIVISION	MONTH	AUDIT NUMBER												
483	3	92700153												

Koppers001893



# CERTIFICATE OF ANALYSIS

CLIENT: KOPPERS INDUSTRIES, INC.  
7540 NW ST. HELENS ROAD  
PORTLAND OR 97210-3663

PHONE: (503) 286-3681  
FAX: (503) 285-2831

DATE SUBMITTED: 02/21/97

PO#:

PROJECT NAME: WASTE WATER ANALYSIS FOR TANKS 2,4, &6

CI SAMPLE #	CLIENTS ID#	DATE	TIME	DESCRIPTION
970252-001-01	WW 2,4 & 6	02/20/97	1530	WASTE WATER GRAB SAMPLE
970252-001-02	WW 2,4 & 6	02/20/97	1530	WASTE WATER GRAB SAMPLE

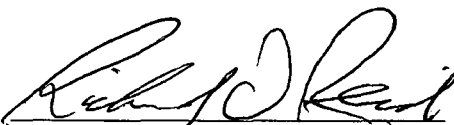
REPORT DATE: 02/27/97

REPORT NUMBER: 970252

PAGE: 1 OF 1

SAMPLE	TEST	PARAMETER	RESULT	UNIT	DETECTION LIMIT	ANALYST
970252-001-01	O&G, TOTAL, GRAV EPA 413.1/9070	TOTAL OIL & GREASE	ND	PPM	2	Dick R.
970252-001-02	PHENOLS, TOTAL EPA 420.1	TOTAL RECOVERABLE PHENOLICS	0.12	PPM	0.05	Dick R.

REVIEWED BY:

  
Richard D. Reid - Laboratory Director

ORIGINAL

**Columbia Inspection, Inc.**  
U.S. CUSTOMS APPROVED GAUGERS  
PETROLEUM AND ENVIRONMENTAL LABORATORY  
TANK CALIBRATIONS

**KOPPERS INDUSTRIES, INC.**  
**AMOS KAMERER**  
**7540 NW ST. HELENS ROAD**  
**PORTLAND, OR 97210-3663**

**OFFICES**

Portland, OR (503) 286-9464  
Fife, WA (206) 922-8781  
Martinez, CA (510) 229-0360  
San Pedro, CA (310) 833-1557

Fed. I.D. 93-0746019

**INVOICE DATE: 02/27/97**

**Invoice number: 570252**

Date	Description of services	Amount	
02/27/97	For Services Rendered: REPORT NUMBER: 970252		
	Client's Project Name: WASTE WATER ANALYSIS FOR TANKS 2.4. & 6		
	Date Submitted: 02/21/97		
	CI SAMPLE # CLIENTS ID# DESCRIPTION		
	970252-001-01 WASTE WATER GRAB SAMPLE		
	970252-001-02 WASTE WATER GRAB SAMPLE		
	ANALYSIS OF THE WASTE WATER SAMPLES.		
	O&G. TOTAL. GRAV.....QUOTED.... 1 @ \$ 39.00	\$ 39.00	
	PHENOLS. TOTAL.....QUOTED.... 1 @ \$ 35.00	\$ 35.00	
	Testing Cost:	\$ 74.00	\$ 74.00
	THANK YOU FOR DOING BUSINESS WITH CI.		
	Terms - Net 15 Days	Total	\$ 74.00

**COPY**

ALL WORK PERFORMED IS SUBJECT TO THE  
TERMS AND CONDITIONS OF OUR CURRENT  
SCHEDULE OF RATES. LIABILITY IS LIMITED  
TO THE AMOUNT OF THIS INVOICE

Please state invoice number and remit to:  
**Columbia Inspection, Inc.**  
Attn: Accounts Receivable  
P.O. Box 83569, St. Johns Station  
Portland, OR 97283

Koppers001895



# CERTIFICATE OF ANALYSIS

CLIENT: KOPPERS INDUSTRIES, INC.  
7540 NW ST. HELENS ROAD  
PORTLAND OR 97210-3663

PHONE: (503) 286-3681  
FAX: (503) 285-2831

DATE SUBMITTED: 02/21/97

PO#:

PROJECT NAME: WASTE WATER ANALYSIS FOR TANKS 2,4, &6

CI SAMPLE #	CLIENTS ID#	DATE	TIME	DESCRIPTION
970252-001-01	WW 2,4 & 6	02/20/97	1530	WASTE WATER GRAB SAMPLE
970252-001-02	WW 2,4 & 6	02/20/97	1530	WASTE WATER GRAB SAMPLE

REPORT DATE: 02/27/97

REPORT NUMBER: 970252

PAGE: 1 OF 1

SAMPLE	TEST	PARAMETER	RESULT	UNIT	DETECTION LIMIT	ANALYST
970252-001-01	O&G, TOTAL, GRAV EPA 413.1/9070	TOTAL OIL & GREASE	ND	PPM	2	Dick R.
970252-001-02	PHENOLS, TOTAL EPA 420.1	TOTAL RECOVERABLE PHENOLICS	0.12	PPM	0.05	Dick R.

REVIEWED BY:

Richard D. Reid - Laboratory Director

COPY

# Columbia Inspection, Inc.

# PETROLEUM AND ENVIRONMENTAL LABORATORY

## TANK CALIBRATIONS

KOPPERS INDUSTRIES, INC.  
AMOS KAMERER  
7540 NW ST. HELENS ROAD  
PORTLAND, OR 97210-3663

## OFFICES

Portland, OR (503) 286-9464  
Fife, WA (206) 922-8781  
Martinez, CA (510) 229-0360  
San Pedro, CA (310) 833-1557

Fed. I.D. 93-0746019

INVOICE DATE: 02/17/97

Invoice number: 570212

Date	Description of services	Amount
02/17/97	For Services Rendered: REPORT NUMBER: 970212	
	Client's Project Name: Coal Tar Pitch Test	
	Date Submitted: 02/12/97	
	Sample Marked: Coal Tar 97-7	
	ANALYSIS OF THE Tar SAMPLE.	
	SULFUR, X-RAY..... 1 @ \$ 60.00	\$ 60.00
	Testing Cost:	\$ 60.00
		\$ 60.00
	per Martin 2/21/97	
	next INV. will be \$20.00 less than normal	
		2y should have been #40
	<b>RECEIVED</b>	
	FEB 19 1997	
	KOPPERS INDS. INC.	
	PORTLAND, OR	
	THANK YOU FOR DOING BUSINESS WITH CT	
	Terms - Net 15 Days	
		<b>ORIGINAL</b>
		Total
		\$ 60.00

ALL WORK PERFORMED IS SUBJECT TO THE  
TERMS AND CONDITIONS OF OUR CURRENT  
SCHEDULE OF RATES. LIABILITY IS LIMITED  
TO THE AMOUNT OF THIS INVOICE

**Please state invoice number and remit to:**

Columbia Inspection, Inc.

Attn: Accounts Receivable

P.O. Box 83569, St. Johns Station

Portland, OR 97283

KI 37W REV 2 6M 6/90

**CIRCLE TERMS ON INVOICE**

</

Koppers001897



# CERTIFICATE OF ANALYSIS

CLIENT: KOPPERS INDUSTRIES, INC.  
7540 NW ST. HELENS ROAD  
PORTLAND OR 97210-3663

PHONE: (503) 286-3681  
FAX: (503) 285-2831

DATE SUBMITTED: 02/12/97

PO#:

PROJECT NAME: SULFUR CONTENT IN COAL TAR

CI SAMPLE #	CLIENTS ID#	DATE	TIME	DESCRIPTION
970212-001-01		02/07/97		COAL TAR SAMPLE 97-7

REPORT DATE: 02/17/97

REPORT NUMBER: 970212

PAGE: 1 OF 1

SAMPLE	TEST	PARAMETER	RESULT	UNIT	DETECTION LIMIT	ANALYST
COAL TAR SAMPLE 97-7						
	SULFUR, X-RAY ASTM D-4294	SULFUR	0.57	WT %	0.01	Martin L.

ORIGINAL

REVIEWED BY:

Martin Little Laboratory Manager

**Columbia Inspection, Inc.**  
 U.S. CUSTOMS APPROVED GAUGERS  
 PETROLEUM AND ENVIRONMENTAL LABORATORY  
 TANK CALIBRATIONS

**KOPPERS INDUSTRIES, INC.**  
**AMOS KAMERER**  
**7540 NW ST. HELENS ROAD**  
**PORTLAND, OR 97210-3663**

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 Fife, WA (206) 922-8781  
 Martinez, CA (510) 229-0360  
 San Pedro, CA (310) 833-1557

Fed. I.D. 93-0746019

**INVOICE DATE: 02/17/97**

**Invoice number: 570211**

Date	Description of services	Amount
02/14/97	For Services Rendered: REPORT NUMBER: 970211	
	Client's Project Name: WW 1,3,5	
	Date Submitted: 02/12/97	
	CI SAMPLE # CLIENTS ID# DESCRIPTION	
	-----	
	970211-001-01 WW 1,3,5 Wastewater Grab	
	970211-001-02 WW 1,3,5 Wastewater Grab	
	ANALYSIS OF THE WASTE WATER SAMPLES.	
	O&G, TOTAL, GRAV.....QUOTED.... 1 @ \$ 39.00	\$ 39.00
	PHENOLS, TOTAL.....QUOTED.... 1 @ \$ 35.00	\$ 35.00
	Testing Cost:	\$ 74.00
		\$ 74.00
<b>RECEIVED</b>  <b>FEB 19 1997</b>  <b>KOPPERS INDS. INC.</b> <b>PORTLAND, OR</b>		
<b>ORIGINAL</b>		
THANK YOU FOR DOING BUSINESS WITH CI.		
	Terms - Net 15 Days	Total

ALL WORK PERFORMED IS SUBJECT TO THE  
 TERMS AND CONDITIONS OF OUR CURRENT  
 SCHEDULE OF RATES. LIABILITY IS LIMITED  
 TO THE AMOUNT OF THIS INVOICE

Please state invoice number and remit to:  
**Columbia Inspection, Inc.**  
 Attn: Accounts Receivable  
 P.O. Box 83569, St. Johns Station  
 Portland, OR 97283

KI 37W REV 2 6M 6/90

**CIRCLE TERMS ON INVOICE**

GIL	DET.	S-DET.	LOC.	DEPT.	TAX	EMP #	MOVE # PO #	AMOUNT
305	807		9270	910	0362			74-
GROSS AMOUNT								74-

INV # 570211 DATE 2/17/97

↓ A/P DEPARTMENT USE ONLY ↓

VENDOR NUMBER 014327008

TERMS CODE 045 DUE DATE: / /

DIVISION MONTH AUDIT NUMBER

OK TO PAY

*[Signature]*





# CERTIFICATE OF ANALYSIS

CLIENT: KOPPERS INDUSTRIES, INC.  
7540 NW ST. HELENS ROAD  
PORTLAND OR 97210-3663

PHONE: (503) 286-3681  
FAX: (503) 285-2831

DATE SUBMITTED: 02/12/97

PO#:

PROJECT NAME: WW 1,3,5

CI SAMPLE #	CLIENTS ID#	DATE	TIME	DESCRIPTION
970211-001-01	WW 1,3,5	02/12/97	1300	Wastewater Grab
970211-001-02	WW 1,3,5	02/12/97	1300	Wastewater Grab

REPORT DATE: 02/14/97

REPORT NUMBER: 970211

PAGE: 1 OF 1

SAMPLE	TEST	PARAMETER	RESULT	UNIT	DETECTION LIMIT	ANALYST
WW 1,3,5						
970211-001-01	O&G, TOTAL, GRAV EPA 413.1/9070	TOTAL OIL & GREASE	3.0	PPM	2	Dick R.
970211-001-02	PHENOLS, TOTAL EPA 420.1	TOTAL RECOVERABLE PHENOLICS	0.07	PPM	0.05	Dick R.

REVIEWED BY:

  
Richard D. Reid - Laboratory Director

ORIGINAL

KOPPERS INDUSTRIES, INC.  
AMOS KAMERER  
7540 NW ST. HELENS ROAD  
PORTLAND, OR 97210-3663


Portland, OR (503) 286-9464  
Fife, WA (206) 922-8781  
Martinez, CA (510) 229-0360  
San Pedro, CA (310) 833-1557

Invoice number: 570132

ALL WORK PERFORMED IS SUBJECT TO THE  
TERMS AND CONDITIONS OF OUR CURRENT  
SCHEDULE OF RATES. LIABILITY IS LIMITED  
TO THE AMOUNT OF THIS INVOICE

Attn: Accounts Receivable  
P.O. Box 83569, St. Johns Station  
Portland, OR 97283

GIL	DET.	S-DET.	LOC.	DEPT.	TAX	EMP #	MOVE # PO #	AMOUNT
305	807		9270	910	0362			148 -

OK TO PAY 

GROSS AMOUNT 148 -

INVOICE # 570132 DATE 1/31/97

↓ A/P DEPARTMENT USE ONLY ↓

VENDOR NUMBER	014327008
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TERMS CODE 045 DUE DATE 1-1

DIVISION -	MONTH	AUDIT NUMBER
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Koppers001901



# CERTIFICATE OF ANALYSIS

CLIENT: KOPPERS INDUSTRIES, INC.  
7540 NW ST. HELENS ROAD  
PORTLAND OR 97210-3663

PHONE: (503) 286-3681  
FAX: (503) 285-2831

DATE SUBMITTED: 01/28/97

PO#:

PROJECT NAME:

CI SAMPLE #	CLIENTS ID#	DATE	TIME	DESCRIPTION
970132-001-01	WWT 1,3,5	01/28/97	1300	WASTE WATER GRAB SAMPLE
970132-001-02	WWT 1,3,5	01/28/97	1300	WASTE WATER GRAB SAMPLE
970132-002-01	WWT 2,4,6	01/28/97	1300	WASTE WATER GRAB SAMPLE
970132-002-02	WWT 2,4,6	01/28/97	1300	WASTE WATER GRAB SAMPLE

REPORT DATE: 01/30/97

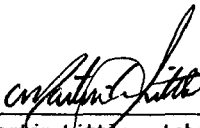
REPORT NUMBER: 970132

PAGE: 1 OF 1

SAMPLE	TEST	PARAMETER	RESULT	UNIT	DETECTION LIMIT	ANALYST
WWT 1,3,5						
970132-001	O&G, TOTAL, GRAV EPA 413.1/9070	TOTAL OIL & GREASE	10	PPM	2	Laura H.
	PHENOLS, TOTAL EPA 420.1	TOTAL RECOVERABLE PHENOLICS	0.14	PPM	0.05	Laura H.
WWT 2,4,6						
970132-002	O&G, TOTAL, GRAV EPA 413.1/9070	TOTAL OIL & GREASE	3	PPM	2	Laura H.
	PHENOLS, TOTAL EPA 420.1	TOTAL RECOVERABLE PHENOLICS	<0.05	PPM	0.05	Laura H.

RECEIVED  
FEB - 3 1997  
KOPPERS IND., INC.  
PORTLAND, OR

REVIEWED BY:

  
Martin Little - Laboratory Manager

ORIGINAL

## TANK CALIBRATIONS

## OFFICES

KOPPERS INDUSTRIES, INC.  
AMOS KAMERER  
7540 NW ST. HELENS ROAD  
PORTLAND, OR 97210-3663

Portland, OR (503) 286-9464  
Tacoma, WA (206) 922-8781  
Martinez, CA (510) 229-0360  
San Pedro, CA (310) 833-1557

Fed. I.D. 93-0746019

INVOICE DATE: 12/26/96

INVOICE NO. 561464

12/24/96	For Services Rendered: REPORT NUMBER: 961464			
	Date Submitted: 12/23/96			
	CI SAMPLE #	CLIENTS ID#	DESCRIPTION	
	961464-001-01	WW 1,3,5	Wastewater Grab	
	961464-001-02	WW 1,3,5	Wastewater Grab	
	961464-002-01	WW 2,4,6	Wastewater Grab	
	961464-002-02	WW 2,4,6	Wastewater Grab	
	ANALYSIS OF THE WASTE WATER SAMPLES.			
	O&G, TOTAL, GRAV*.....QUOTED.... 2 @ \$ 39.00			\$ 78.00
	PHENOLS, TOTAL*.....QUOTED.... 2 @ \$ 35.00			\$ 70.00
	Testing Cost:			\$ 148.00 \$ 148.00
	* RUSH FEE.....			\$ 74.00 \$ 74.00
<b>RECEIVED</b>  DEC 31 1996  KOPPERSINDS.,INC. PORTLAND,OR				
<b>ORIGINAL</b>				
THANK YOU FOR DOING BUSINESS WITH CI.				
TERMS- NET 15 DAYS				TOTAL \$ 222.00

ALL WORK PERFORMED IS SUBJECT TO THE  
TERMS AND CONDITIONS OF OUR CURRENT  
SCHEDULE OF RATES. LIABILITY IS LIMITED  
TO THE AMOUNT OF THIS INVOICE

Please state invoice numbers and remit to:

**Columbia Inspection, Inc.**

P.O. Box 83569, St. Johns Station  
Portland, OR 97283-0569

KI 37G REV 2 2M 6/90

GIL	DET.	S-DET.	LOC.	DEPT.	TAX	EMP #	MOVE # PO #	AMOUNT	CIRCLE TERMS ON INVOICE		
305	807		9270	910	0362			222-	INV # 561464	DATE 12/26/96	
									↓ A/P DEPARTMENT USE ONLY ↓		
									VENDOR NUMBER	014327008	
									TERMS CODE	045 DUE DATE: / /	
									DIVISION	MONTH	AUDIT NUMBER
									483	1	92700036
OK TO PAY						GROSS AMOUNT 222-					
						DISCOUNT \$					
						NET \$					
IMPORTANT: CIRCLE TERMS ON INVOICE											



# CERTIFICATE OF ANALYSIS

CLIENT: KOPPERS INDUSTRIES, INC.  
7540 NW ST. HELENS ROAD  
PORTLAND OR 97210-3663

PHONE: (503) 286-3681  
FAX: (503) 285-2831

DATE SUBMITTED: 12/23/96

PO#:

PROJECT NAME:

CI SAMPLE #	CLIENTS ID#	DATE	TIME	DESCRIPTION
961464-001-01	WW 1,3,5	12/23/96	1300	Wastewater Grab
961464-001-02	WW 1,3,5	12/23/96	1300	Wastewater Grab
961464-002-01	WW 2,4,6	12/23/96	1300	Wastewater Grab
961464-002-02	WW 2,4,6	12/23/96	1300	Wastewater Grab

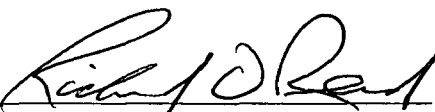
REPORT DATE: 12/24/96

REPORT NUMBER: 961464

PAGE: 1 OF 1

SAMPLE	TEST	PARAMETER	RESULT	UNIT	DETECTION LIMIT	ANALYST
WW 1,3,5						
961464-001-01	PHENOLS, TOTAL EPA 420.1	TOTAL RECOVERABLE PHENOLICS	0.13	PPM	0.05	Dick R.
961464-001-02	O&G, TOTAL, GRAV EPA 413.1/9070	TOTAL OIL & GREASE	7	PPM	2	Laura H.
WW 2,4,6						
961464-002-01	PHENOLS, TOTAL EPA 420.1	TOTAL RECOVERABLE PHENOLICS	ND	PPM	0.05	Dick R.
961464-002-02	O&G, TOTAL, GRAV EPA 413.1/9070	TOTAL OIL & GREASE	6	PPM	2	Laura H.

REVIEWED BY:

  
Richard D. Reid - Laboratory Director

001464

U.S. CUSTOMS APPROVED GAUGERS  
PETROLEUM AND ENVIRONMENTAL LABORATORY  
TANK CALIBRATIONS

Portland, OR (503) 286-9464  
Tacoma, WA (206) 922-8781  
Martinez, CA (510) 229-0360  
San Pedro, CA (310) 833-1557

KOPPERS INDUSTRIES, INC.  
AMOS KAMERER  
7540 NW ST. HELENS ROAD  
PORTLAND, OR 97210-3663

**INVOICE NO. 561464**

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*Columbia Inspection, Inc.*

**P.O. Box 83569, St. Johns Station  
Portland, OR 97283-0569**

Koppers001905



# CERTIFICATE OF ANALYSIS

CLIENT: KOPPERS INDUSTRIES, INC.  
7540 NW ST. HELENS ROAD  
PORTLAND OR 97210-3663

PHONE: (503) 286-3681  
FAX: (503) 285-2831

DATE SUBMITTED: 12/23/96

PO#:

PROJECT NAME:

CI SAMPLE #	CLIENTS ID#	DATE	TIME	DESCRIPTION
961464-001-01	WW 1,3,5	12/23/96	1300	Wastewater Grab
961464-001-02	WW 1,3,5	12/23/96	1300	Wastewater Grab
961464-002-01	WW 2,4,6	12/23/96	1300	Wastewater Grab
961464-002-02	WW 2,4,6	12/23/96	1300	Wastewater Grab

REPORT DATE: 12/24/96

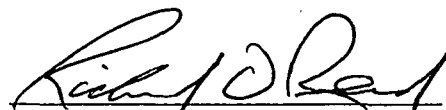
REPORT NUMBER: 961464

PAGE: 1 OF 1

SAMPLE	TEST	PARAMETER	RESULT	UNIT	DETECTION LIMIT	ANALYST
WW 1,3,5						
961464-001-01	PHENOLS, TOTAL EPA 420.1	TOTAL RECOVERABLE PHENOLICS	0.13	PPM	0.05	Dick R.
961464-001-02	O&G, TOTAL, GRAV EPA 413.1/9070	TOTAL OIL & GREASE	7	PPM	2	Laura H.
WW 2,4,6						
961464-002-01	PHENOLS, TOTAL EPA 420.1	TOTAL RECOVERABLE PHENOLICS	ND	PPM	0.05	Dick R.
961464-002-02	O&G, TOTAL, GRAV EPA 413.1/9070	TOTAL OIL & GREASE	6	PPM	2	Laura H.

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REVIEWED BY:

  
Richard D. Reid - Laboratory Director

Columbia Inspection, Inc. 7133 N Lombard St. - Portland, OR 97203 (503) 286-9464 Fax (503) 286-5355

Koppers001906

## OFFICERS

Portland, OR (503) 286-9464  
Tacoma, WA (206) 922-8781  
Martinez, CA (510) 229-0360  
San Pedro, CA (310) 833-1557

Fed. I.D. 93-0746019

INVOICE NO. 561410

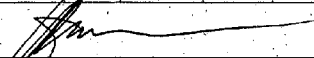
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*Columbia Inspection, Inc.*

P.O. Box 83569, St. Johns Station  
Portland, OR 97283-0569

KI 37G REV 2 2M 6/90

**CIRCLE TERMS ON INVOICE**

QIL	DET.	S-DET.	LOC.	DEPT.	TAX	EMP #	MOVE # PO #	AMOUNT	CIRCLE TERMS ON INVOICE			
305	807		9270	910	0362			222 -	INV # 561410	DATE 12/19/96		
									↓ A/P DEPARTMENT USE ONLY ↓			
									VENDOR NUMBER	014327008		
									TERMS: CODE	045 DUE DATE: 1/1		
OK TO PAY 							GROSS AMOUNT	222 -	DIVISION	MONTH	AUDIT NUMBER	
							DISCOUNT \$		483	1	92700010	
							NET \$					

**IMPORTANT:** CIRCLE TERMS ON INVOICE





# CERTIFICATE OF ANALYSIS

CLIENT: KOPPERS INDUSTRIES, INC.  
7540 NW ST. HELENS ROAD  
PORTLAND OR 97210-3663

PHONE: (503) 286-3681  
FAX: (503) 285-2831

DATE SUBMITTED: 12/11/96

PO#:

PROJECT NAME:

CI SAMPLE #	CLIENTS ID#	DATE	TIME	DESCRIPTION
961410-001-01	WW 1,3,5	12/11/96	1330	Wastewater Grab
961410-001-02	WW 1,3,5	12/11/96	1330	Wastewater Grab
961410-002-01	WW 2,4,6	12/11/96	1330	Wastewater Grab
961410-002-02	WW 2,4,6	12/11/96	1330	Wastewater Grab

REPORT DATE: 12/12/96

REPORT NUMBER: 961410

PAGE: 1 OF 1

SAMPLE	TEST	PARAMETER	RESULT	UNIT	DETECTION LIMIT	ANALYST
WW 1,3,5						
961410-001-01	O&G, TOTAL, GRAV EPA 413.1/9070	TOTAL OIL & GREASE	5	PPM	2	Laura H.
961410-001-02	PHENOLS, TOTAL EPA 420.1	TOTAL RECOVERABLE PHENOLICS	0.08	PPM	0.05	Dick R.
WW 2,4,6						
961410-002-01	O&G, TOTAL, GRAV EPA 413.1/9070	TOTAL OIL & GREASE	6	PPM	2	Laura H.
961410-002-02	PHENOLS, TOTAL EPA 420.1	TOTAL RECOVERABLE PHENOLICS	0.08	PPM	0.05	Dick R.

REVIEWED BY:

Richard D. Reid - Laboratory Director

ORIGINAL

# Columbia Inspection, Inc.

U.S. CUSTOMS APPROVED GAUGERS  
PETROLEUM AND ENVIRONMENTAL LABORATORY  
TANK CALIBRATIONS

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San Pedro, CA (310) 833-1557

Fed. I.D. 93-0746019

KOPPERS INDUSTRIES, INC.  
AMOS KAMERER  
7540 NW ST. HELENS ROAD  
PORTLAND, OR 97210-3663

INVOICE DATE: 12/19/96

INVOICE NO. 561410

12/12/96	For Services Rendered: REPORT NUMBER: 961410			
	Date Submitted: 12/11/96			
	CI SAMPLE #	CLIENTS ID#	DESCRIPTION	
	-----		-----	
	961410-001-01	WW 1,3,5	Wastewater Grab	
	961410-001-02	WW 1,3,5	Wastewater Grab	
	961410-002-01	WW 2,4,6	Wastewater Grab	
	961410-002-02	WW 2,4,6	Wastewater Grab	
	ANALYSIS OF THE WASTE WATER SAMPLES.			
	O&G, TOTAL, GRAV*.....QUOTED.... 2 @ \$ 39.00		\$ 78.00	
	PHENOLS, TOTAL*.....QUOTED.... 2 @ \$ 35.00		\$ 70.00	
	Testing Cost:			\$ 148.00 \$ 148.00
	* RUSH FEE.....			\$ 74.00 \$ 74.00
COPY				
THANK YOU FOR DOING BUSINESS WITH CI.				
TERMS- NET 15 DAYS			TOTAL	\$ 222.00

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**Columbia Inspection, Inc.**

P.O. Box 83569, St. Johns Station  
Portland, OR 97283-0569

Koppers001909



# CERTIFICATE OF ANALYSIS

CLIENT: KOPPERS INDUSTRIES, INC.  
7540 NW ST. HELENS ROAD  
PORTLAND OR 97210-3663

PHONE: (503) 286-3681  
FAX: (503) 285-2831

DATE SUBMITTED: 12/11/96

PO#:

PROJECT NAME:

CI SAMPLE #	CLIENTS ID#	DATE	TIME	DESCRIPTION
961410-001-01	WW 1,3,5	12/11/96	1330	Wastewater Grab
961410-001-02	WW 1,3,5	12/11/96	1330	Wastewater Grab
961410-002-01	WW 2,4,6	12/11/96	1330	Wastewater Grab
961410-002-02	WW 2,4,6	12/11/96	1330	Wastewater Grab


REPORT DATE: 12/12/96

REPORT NUMBER: 961410

PAGE: 1 OF 1

SAMPLE	TEST	PARAMETER	RESULT	UNIT	DETECTION LIMIT	ANALYST
WW 1,3,5						
961410-001-01	O&G, TOTAL, GRAV EPA 413.1/9070	TOTAL OIL & GREASE	5	PPM	2	Laura H.
961410-001-02	PHENOLS, TOTAL EPA 420.1	TOTAL RECOVERABLE PHENOLICS	0.08	PPM	0.05	Dick R.
WW 2,4,6						
961410-002-01	O&G, TOTAL, GRAV EPA 413.1/9070	TOTAL OIL & GREASE	6	PPM	2	Laura H.
961410-002-02	PHENOLS, TOTAL EPA 420.1	TOTAL RECOVERABLE PHENOLICS	0.08	PPM	0.05	Dick R.

REVIEWED BY:

  
Richard D. Reid - Laboratory Director

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Columbia Inspection, Inc. 7133 N Lombard St. - Portland, OR 97203 (503) 286-9464 Fax (503) 286-5355

Koppers001910



## NUMBER REQUESTS

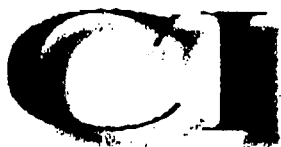
NAME CarolDATE 1/2/87LOCATION PORTLAND

NAME REQUESTING

DATE 1/2/87

NAME REQUESTING

NAME REQUESTING Customer EmployeeNAME REQUESTING Customer Employee Business UtilityNAME FOR REQUEST COLUMBIA INSURANCE CO.NAME REQUESTING CustomerNAME REQUESTING Customer Employee Business UtilityNAME REQUESTING CustomerNAME REQUESTING Customer Employee Business UtilityNAME REQUESTING CustomerNAME REQUESTING Customer Employee Business Utility



# CERTIFICATE OF ANALYSIS

CLIENT: KOPPERS INDUSTRIES, INC.  
7540 NW ST. HELENS ROAD  
PORTLAND OR 97210-3663

PHONE: (503) 286-3681  
FAX: (503) 285-2831

DATE SUBMITTED: 01/03/19

PROJECT NAME: WASTE WATER TANKS

CI SAMPLE	CLIENTS ID#	DATE	TIME	MATRIX	DESCRIPTION
000006-001		01/03/2000	1000	Water	WASTE WATER GRAB SAMPLE

REPORT DATE: 01/05/2000      REPORT NUMBER: 000006      PAGE: 1 OF 1

SAMPLE	ANALYSIS	PARAMETER	RESULT	UNIT	DETECTION LIMIT	ANALYST
WASTE WATER GRAB SAMPLE		SAMPLE ID:				
000006-001	O & G TOTAL (HEM)	TOTAL OIL AND GREASE	ND	mg/L	2	Gordon L.
	PHENOLS, TOTAL	TOTAL RECOVERABLE PHENOLICS	0.16	mg/L	0.05	Dick R.
	PNAH 2	ACENAPHTHENE	7.7	ug/L	0.05	Jacob F.
	EPA 625 (SIM)	ACENAPHTHYLENE	1.3	ug/L	0.05	
		ANTHRACENE	5.2	ug/L	0.05	
		BENZO(A)ANTHRACENE	24	ug/L	0.05	
		BENZO(A)PYRENE	42	ug/L	0.2	
		BENZO(B)FLUORANTHENE	30	ug/L	0.2	
		BENZO(GHI)PERYLENE	34	ug/L	0.5	
		BENZO(K)FLUORANTHENE	29	ug/L	0.2	
		CHRYSENE	29	ug/L	0.05	
		DIBENZO(AH)ANTHRACENE	5.6	ug/L	0.3	
		FLUORANTHENE	46	ug/L	0.05	
		FLUORENE	5.5	ug/L	0.05	
		INDENO(1,2,3-CD)PYRENE	38	ug/L	0.4	
		NAPHTHALENE	0.79	ug/L	0.05	
		PHENANTHRENE	16	ug/L	0.05	
		PYRENE	42	ug/L	0.05	
		SURROGATE	77%	% RECOVERY 50%-150%		

356.25

REVIEWED BY:

Martin Little - Quality Manager



# CERTIFICATE OF ANALYSIS

CLIENT: KOPPERS INDUSTRIES, INC.  
7540 NW ST. HELENS ROAD  
PORTLAND OR 97210-3663

PHONE: (503) 286-3681  
FAX: (503) 285-2831

DATE SUBMITTED: 07/22/97

PO#:

PROJECT NAME: NPDES Permit Renewal

CI SAMPLE #	CLIENTS ID#	DATE	TIME	DESCRIPTION
971005-001-01		07/22/97	1430	WW Tanks 2,4,6
971005-001-02		07/22/97	1430	WW Tanks 2,4,6
971005-001-03		07/22/97	1430	WW Tanks 2,4,6
971005-001-04		07/22/97	1430	WW Tanks 2,4,6
971005-001-05		07/22/97	1430	WW Tanks 2,4,6
971005-001-06		07/22/97	1430	WW Tanks 2,4,6
971005-001-07		07/22/97	1430	WW Tanks 2,4,6
971005-001-08		07/22/97	1430	WW Tanks 2,4,6
971005-001-09		07/22/97	1430	WW Tanks 2,4,6

REPORT DATE: 07/31/97

REPORT NUMBER: 971005

PAGE: 1 OF 4

SAMPLE	TEST	PARAMETER	RESULT	UNIT	DETECTION LIMIT	ANALYST
971005-001-01	BOD EPA 405.1	5-DAY BOD TEST	6	mg/L	5	Jacob F.
971005-001-01	BROMIDE EPA 300.0B	BROMIDE	ND	mg/L	0.01	CLI
971005-001-01	COLOR - EPA EPA 110.2	COLOR	20	COLOR UNIT 5		Dick R.
971005-001-02	FECAL COLIFORM SM 9222 D	FECAL COLIFORM	ND	/100 m		Dick R.

REVIEWED BY:

Richard D. Reid - Laboratory Director

# CERTIFICATE OF ANALYSIS

REPORT DATE: 07/31/97

REPORT NUMBER: 971005

PAGE: 2 OF 4

SAMPLE	TEST	PARAMETER	RESULT	UNIT	DETECTION LIMIT	ANALYST
971005-001-01	FLUORIDE EPA 340.2	FLUORIDE	0.2	PPM	0.2	Jacob F.
971005-001-01	NITRATE SM 4500-NO3 D	NITRATE AS NO3-N	ND	PPM	1	Jacob F.
971005-001-01	PH EPA 150.1	pH	6.83			Dick R.
971005-001-01	RESIDUAL CHLORINE 1 EPA 330.4	RESIDUAL CHLORINE	ND	mg/L	0.05	Dick R.
971005-001-01	SULFATE, TURBID. EPA 375.4	SULFATE	7.3	PPM	5	Dick R.
971005-001-01	SULFITE EPA 377.1	SULFITE	ND	PPM	1	Dick R.
971005-001-01	SURFACTANTS (MBAS) SM 5540 C	MBAS, CALCULATED AS LAS	0.28	mg LAS/L	0.02 mg	Dick R.
971005-001-01	SUSPENDED SOLIDS EPA 160.2	TOTAL SUSPENDED SOLIDS	ND	PPM	1	Gordon L.
971005-001-03	AMMONIA EPA 350.3	AMMONIA AS NH3-N	ND	PPM	1	Dick R.
971005-001-03	COD EPA 410.4	CHEMICAL OXYGEN DEMAND	9	PPM	5	Dick R.
971005-001-03	PHOSPHORUS, TOTAL EPA 365.2	TOTAL PHOSPHORUS	0.60	PPM	0.01	Dick R.
971005-001-03	TKN SM 4500-N	TOTAL KJELDAHL NITROGEN	ND	MG/L	1	Dick R.
971005-001-03	TOC EPA 415.1	TOTAL ORGANIC CARBON	7.3	PPM	0.5	Jacob F.
971005-001-04	O & G TOTAL, GRAV. SM 5520 B	TOTAL OIL & GREASE	ND	PPM	2	Gordon L.

# CERTIFICATE OF ANALYSIS

REPORT DATE: 07/31/97

REPORT NUMBER: 971005

PAGE: 3 OF 4

SAMPLE	TEST	PARAMETER	RESULT	UNIT	DETECTION LIMIT	ANALYST
971005-001-06	ALUMINUM - ICP EPA 200.7/6010	TOTAL ALUMINUM	ND	PPM	0.02	Eleanor T.
971005-001-06	ANTIMONY - ICP EPA 200.7/6010	TOTAL ANTIMONY	ND	PPM	0.1	Eleanor T.
971005-001-06	ARSENIC - ICP EPA 200.7/6010	TOTAL ARSENIC	ND	PPM	0.1	Eleanor T.
971005-001-06	BARIUM - ICP EPA 200.7/6010	TOTAL BARIUM	ND	PPM	0.02	Eleanor T.
971005-001-06	BERYLLIUM - ICP EPA 200.7/6010	TOTAL BERYLLIUM	ND	PPM	0.01	Eleanor T.
971005-001-06	BORON EPA 200.7/6010	BORON	ND	PPM	0.01	Eleanor T.
971005-001-06	CADMIUM - ICP EPA 200.7/6010	TOTAL CADMIUM	ND	PPM	0.01	Eleanor T.
971005-001-06	CHROMIUM - ICP EPA 200.7/6010	TOTAL CHROMIUM	ND	PPM	0.02	Eleanor T.
971005-001-06	COBALT - ICP EPA 200.7/6010	TOTAL COBALT	ND	PPM	0.03	Eleanor T.
971005-001-06	COPPER - ICP EPA 200.7/6010	TOTAL COPPER	ND	PPM	0.01	Eleanor T.
971005-001-06	IRON - ICP EPA 200.7/6010	TOTAL IRON	1.0	PPM	0.02	Eleanor T.
971005-001-06	LEAD - ICP EPA 200.7/6010	TOTAL LEAD	ND	PPM	0.06	Eleanor T.
971005-001-06	MAGNESIUM - ICP EPA 200.7/6010	TOTAL MAGNESIUM	5.2	PPM	0.01	Eleanor T.
971005-001-06	MANGANESE - ICP EPA 200.7/6010	TOTAL MANGANESE	1.0	PPM	0.01	Eleanor T.



# CERTIFICATE OF ANALYSIS

REPORT DATE: 07/31/97

REPORT NUMBER: 971005

PAGE: 4 OF 4

SAMPLE	TEST	PARAMETER	RESULT	UNIT	DETECTION LIMIT	ANALYST
971005-001-06	MERCURY - CVAA EPA 245.1/7470	TOTAL MERCURY	ND	PPM	0.0003	Eleanor T.
971005-001-06	MOLYBDENUM - ICP EPA 200.7/6010	TOTAL MOLYBDENUM	ND	PPM	0.02	Eleanor T.
971005-001-06	NICKEL - ICP EPA 200.7/6010	TOTAL NICKEL	ND	PPM	0.03	Eleanor T.
971005-001-06	SELENIUM - ICP EPA 200.7/6010	TOTAL SELENIUM	ND	PPM	0.14	Eleanor T.
971005-001-06	SILVER - ICP EPA 200.7/6010	TOTAL SILVER	ND	PPM	0.1	Eleanor T.
971005-001-06	THALLIUM - ICP EPA 200.7/6010	TOTAL THALLIUM	ND	PPM	0.3	Eleanor T.
971005-001-06	TIN - ICP EPA 200.7/6010	TOTAL TIN	ND	PPM	0.07	Eleanor T.
971005-001-06	TITANIUM - GFAA EPA 283.2	TITANIUM	ND	PPM	0.002	Eleanor T.
971005-001-06	ZINC - ICP EPA 200.7/6010	TOTAL ZINC	ND	PPM	0.02	Eleanor T.
971005-001-07	CYANIDE, TOTAL EPA 335.2	TOTAL CYANIDE	ND	PPM	0.01	CLI
971005-001-08	PHENOLS, TOTAL EPA 420.1	TOTAL RECOVERABLE PHENOLICS	0.16	PPM	0.05	Dick R.
971005-001-09	SULFIDES EPA 376.2	SULFIDES	ND	PPM	0.1	Dick R.

## Portland Office

7133 North Lombard Street, Portland, OR 97203

Phone: (503) 286-9464 FAX: (503) 285-7831

Due Date ☐ Mail

Sampler: B. HARWOOD ☐ Submitted

### Analyses To Be Performed

CI Form 100 (COC) Rev A



# CERTIFICATE OF ANALYSIS

CLIENT: KOPPERS INDUSTRIES, INC.  
7540 NW ST. HELENS ROAD  
PORTLAND OR 97210-3663

PHONE: (503) 286-3681  
FAX: (503) 285-2831

DATE SUBMITTED: 06/30/97

PO#:

PROJECT NAME: Permit Reapplication Test

CJ SAMPLE #	CLIENTS ID#	DATE	TIME	DESCRIPTION
970894-001-01		06/30/97	1130	WW Tks 2,4,6
970894-001-02		06/30/97	1130	WW Tks 2,4,6

REPORT DATE: 07/09/97

CORRECTED REPORT NUMBER: 970894

PAGE: 1 OF 5

SAMPLE	TEST	PARAMETER	RESULT	UNIT	DETECTION LIMIT	ANALYST
970894-001-01	B/N/A SEMIVOLS 2 EPA 625	ACID EXTRACTIBLES				Jacob F.
		2-CHLOROPHENOL	ND	PPM	0.005	
		4-CHLORO-3-METHYLPHENOL	ND	PPM	0.005	
		2,4-DICHLOROPHENOL	ND	PPM	0.005	
		2,4-DIMETHYLPHENOL	ND	PPM	0.005	
		2,4-DINITROPHENOL	ND	PPM	0.050	
		2-NITROPHENOL	ND	PPM	0.005	
		4-NITROPHENOL	ND	PPM	0.050	
		PHENOL	ND	PPM	0.005	
		PENTACHLOROPHENOL	ND	PPM	0.025	
		2,4,6-TRICHLOROPHENOL	ND	PPM	0.005	
		4,6-DINITRO-2-METHYLPHENOL	ND	PPM	0.025	
		SURROGATE 1	OBSCURED	% RECOVERY	50%-150%	
		SURROGATE 2	85%	% RECOVERY	50%-150%	
		B/N EXTRACTABLES				
		ACENAPHTHENE	0.006	PPM	0.005	

REVIEWED BY:

Richard D. Reid - Laboratory Director

# CERTIFICATE OF ANALYSIS

REPORT DATE: 07/09/97

REPORT NUMBER: 970894

PAGE: 2 OF 5

SAMPLE	TEST	PARAMETER	RESULT	UNIT	DETECTION	ANALYST
					LIMIT	
970894-001-01	B/N/A SEMIVOLS 2 EPA 625	ACENAPHTHYLENE	ND	PPM	0.005	Jacob F.
		ANTHRACENE	ND	PPM	0.005	
		BENZIDINE	ND	PPM	0.010	
		BENZO(a)ANTHRACENE	0.020	PPM	0.005	
		BENZO(a)PYRENE	0.009	PPM	0.005	
		BENZO(b)FLUORANTHRENE	0.010	PPM	0.005	
		BENZO(ghi)PYRENE	ND	PPM	0.005	
		BENZO(k)FLUORANTHRENE	0.010	PPM	0.005	
		BIS(2-CHLOROETHOXY)METHANE	ND	PPM	0.005	
		BIS(2-CHLOROETHYL)ETHER	ND	PPM	0.005	
		BIS(2-CHLOROISOPROPYL)ETHER	ND	PPM	0.005	
		BIS(2-ETHYLHEXYL)PHTHALATE	ND	PPM	0.005	
		BUTYL BENZYL PHTHALATE	ND	PPM	0.005	
		4-BROMOPHENYL PHENYL ETHER	ND	PPM	0.005	
		2-CHLORONAPHTHALENE	ND	PPM	0.005	
		4-CHLOROPHENYL PHENYL ETHER	ND	PPM	0.005	
		CHRYSENE	ND	PPM	0.005	
		1,2-DIBENZO(a)ANTHRACENE	ND	PPM	0.005	
		3,3-DICHLOROBENZIDINE	ND	PPM	0.010	
		1,2-DICHLOROBENZENE	ND	PPM	0.005	
		1,3-DICHLOROBENZENE	ND	PPM	0.005	
		1,4-DICHLOROBENZENE	ND	PPM	0.005	
		DIETHYL PHTHALATE	ND	PPM	0.005	
		DIMETHYL PHTHALATE	ND	PPM	0.005	
		DI-N-BUTYL PHTHALATE	ND	PPM	0.005	
		DI-N-OCTYL PHTHALATE	ND	PPM	0.005	
		2,4-DINITROTOLUENE	ND	PPM	0.010	
		2,6-DINITROTOLUENE	ND	PPM	0.010	
		FLUORANTHENE	0.010	PPM	0.005	
		FLUORENE	ND	PPM	0.005	
		HEXACHLOROBENZENE	ND	PPM	0.005	
		HEXACHLOROBUTADIENE	ND	PPM	0.005	
		HEXACHLOROCYCLOPENTADIENE	ND	PPM	0.025	
		HEXACHLOROETHANE	ND	PPM	0.005	
		INDENO(1,2,3-CD)PYRENE	ND	PPM	0.005	
		ISOPHORONE	ND	PPM	0.005	
		NAPHTHALENE	ND	PPM	0.005	
		NITROBENZENE	ND	PPM	0.005	
		N-NITROSODIMETHYLAMINE	ND	PPM	0.005	
		N-NITROSODIPHENYLAMINE	ND	PPM	0.005	
		N-NITROSO-DI-N-PROPYLAMINE	ND	PPM	0.005	
		PHENANTHRENE	0.005	PPM	0.005	
		PYRENE	0.011	PPM	0.005	
		1,2,4-TRICHLOROBENZENE	ND	PPM	0.005	

# CERTIFICATE OF ANALYSIS

REPORT DATE: 07/09/97

REPORT NUMBER: 970894

PAGE: 3 OF 5

SAMPLE	TEST	PARAMETER	RESULT	UNIT	DETECTION LIMIT	ANALYST
970894-001-01	PESTICIDES & PCBs EPA 8080	PESTICIDES				Jacob F.
		ALDRIN	ND	PPM	0.004	
		ALPHA-BHC	ND	PPM	0.002	
		BETA-BHC	ND	PPM	0.004	
		GAMMA-BHC (LINDANE)	ND	PPM	0.004	
		DELTA-BHC	ND	PPM	0.004	
		ALPHA-CHLORDANE	ND	PPM	0.004	
		GAMMA-CHLORDANE	ND	PPM	0.004	
		4,4'-DDD	ND	PPM	0.008	
		4,4'-DDE	ND	PPM	0.004	
		4,4'-DDT	ND	PPM	0.008	
		DIELDRIN	ND	PPM	0.004	
		ENDOSULFAN I	ND	PPM	0.004	
		ENDOSULFAN II	ND	PPM	0.008	
		ENDOSULFAN SULFATE	ND	PPM	0.008	
		ENDRIN ALDEHYDE	ND	PPM	0.010	
		ENDRIN KETONE	ND	PPM	0.008	
		ENDRIN	ND	PPM	0.004	
		HEPTACHLOR	ND	PPM	0.004	
		HEPTACHLOR EPOXIDE	ND	PPM	0.004	
		METHOXYCHLOR	ND	PPM	0.040	
		TOXAPHENE	ND	PPM	0.020	
		PCBs				
		AROCLOR 1016	ND	PPM	0.05	
		AROCLOR 1221	ND	PPM	0.05	
		AROCLOR 1232	ND	PPM	0.05	
		AROCLOR 1242	ND	PPM	0.05	
		AROCLOR 1248	ND	PPM	0.05	
		AROCLOR 1254	ND	PPM	0.05	
		AROCLOR 1260	ND	PPM	0.05	
		SURROGATE 1	117%	% RECOVERY	50%-150%	Jacob F.
		SURROGATE 2	OBSCURED	% RECOVERY	50%-150%	
		SURROGATE 3	85%	% RECOVERY	50%-150%	
970894-001-02	VOLATILE ORGANICS 1 EPA 8260	BENZENE	0.029	PPM	0.005	Jacob F.
		BROMOBENZENE	ND	PPM	0.005	

# CERTIFICATE OF ANALYSIS

REPORT DATE: 07/09/97

REPORT NUMBER: 970894

PAGE: 4 OF 5

SAMPLE	TEST	PARAMETER	RESULT	UNIT	DETECTION	ANALYST
					LIMIT	
970894-001-02	VOLATILE ORGANICS 1 EPA 8260	BROMOCHLOROMETHANE	ND	PPM	0.005	Jacob F.
		BROMODICHLOROMETHANE	ND	PPM	0.005	
		BROMOFORM	ND	PPM	0.005	
		BROMOMETHANE	ND	PPM	0.005	
		N-BUTYLBENZENE	ND	PPM	0.005	
		SEC-BUTYLBENZENE	ND	PPM	0.005	
		TERT-BUTYLBENZENE	ND	PPM	0.005	
		CARBON TETRACHLORIDE	ND	PPM	0.005	
		CHLOROBENZENE	ND	PPM	0.005	
		CHLOROETHANE	ND	PPM	0.005	
		CHLOROFORM	ND	PPM	0.005	
		CHLOROMETHANE	ND	PPM	0.025	
		2-CHLOROTOLUENE	ND	PPM	0.005	
		4-CHLOROTOLUENE	ND	PPM	0.005	
		DIBROMOCHLOROMETHANE	ND	PPM	0.005	
		1,2-DIBROMO-3-CHLOROPROPANE	ND	PPM	0.050	
		1,2-DIBROMOETHANE	ND	PPM	0.005	
		DIBROMOETHANE	ND	PPM	0.005	
		1,2-DICHLOROBENZENE	ND	PPM	0.005	
		1,3-DICHLOROBENZENE	ND	PPM	0.005	
		1,4-DICHLOROBENZENE	ND	PPM	0.005	
		DICHLORODIFLUOROMETHANE	ND	PPM	0.050	
		1,1-DICHLOROETHANE	ND	PPM	0.005	
		1,1-DICHLOROETHENE	ND	PPM	0.005	
		CIS-1,2-DICHLOROETHENE	ND	PPM	0.005	
		TRANS-1,2-DICHLOROETHENE	ND	PPM	0.005	
		1,2-DICHLOROPROPANE	ND	PPM	0.005	
		1,3-DICHLOROPROPANE	ND	PPM	0.005	
		2,2-DICHLOROPROPANE	ND	PPM	0.005	
		1,1-DICHLOROPROPENE	ND	PPM	0.005	
		1,2-DICHLOROETHANE	ND	PPM	0.005	
		CIS-1,3-DICHLOROPROPENE	ND	PPM	0.005	
		TRANS-1,3-DICHLOROPROPENE	ND	PPM	0.005	
		ETHYLBENZENE	ND	PPM	0.005	
		HEXACHLOROBUTADIENE	ND	PPM	0.025	
		ISOPROPYLBENZENE	ND	PPM	0.005	
		P-ISOPROPYLTOLUENE	ND	PPM	0.005	
		METHYLENE CHLORIDE	ND	PPM	0.005	
		NAPHTHALENE	0.025	PPM	0.025	
		N-PROPYLBENZENE	ND	PPM	0.005	
		STYRENE	0.005	PPM	0.005	
		1,1,1,2-TETRACHLOROETHANE	ND	PPM	0.005	
		1,1,1,2-TETRACHLOROETHANE	ND	PPM	0.015	
		TETRACHLOROETHENE	ND	PPM	0.005	

# CERTIFICATE OF ANALYSIS

REPORT DATE: 07/09/97

REPORT NUMBER: 970894

PAGE: 5 OF 5

SAMPLE	TEST	PARAMETER	RESULT	UNIT	DETECTION LIMIT	ANALYST
970894-001-02	VOLATILE ORGANICS 1 EPA 8260	TOLUENE	0.027	PPM	0.005	Jacob F.
		1,2,3-TRICHLOROBENZENE	ND	PPM	0.025	
		1,2,4-TRICHLOROBENZENE	ND	PPM	0.025	
		1,1,1-TRICHLOROETHANE	ND	PPM	0.005	
		1,1,2-TRICHLOROETHANE	ND	PPM	0.005	
		TRICHLOROETHENE	ND	PPM	0.005	
		TRICHLOROFLUORMETHANE	ND	PPM	0.005	
		1,2,3-TRICHLOROPROPANE	ND	PPM	0.005	
		1,2,4-TRIMETHYLBENZENE	ND	PPM	0.005	
		1,3,5-TRIMETHYLBENZENE	ND	PPM	0.005	
		VINYL CHLORIDE	ND	PPM	0.025	
		M- & P-XYLENE	0.024	PPM	0.005	
		O-XYLENE	0.018	PPM	0.005	
		ACETONITRILE	ND	PPM	1.	
		ACROLEIN	ND	PPM	1.	
		2-CHLOROETHYL VINYL ETHER	ND	PPM	0.050	
		SURROGATE 1	84%	% RECOVERY	80%-120%	
		SURROGATE 2	87%	% RECOVERY	80%-120%	
		SURROGATE 3	87%	% RECOVERY	80%-120%	

# Polynuclear Aromatic Hydrocarbons

## Annual Summary - Outfall 001

### Portland Terminal

PAH Constituent	Quarter	1st Qtr-96	2nd Qtr-96	3rd Qtr-96	4th Qtr-96	1st Qtr-97	2nd Qtr-97	2nd Qtr-97	3rd Qtr-97	4th Qtr-97
	Sample Date	01/15/96	04/25/96	***	12/03/96	03/08/97	04/18/97	05/05/97	06/30/97	09/23/97
	Laboratory	Coffey	Coffey	Coffey	Coffey	Columbia	Columbia	Coffey	Columbia*	Columbia**
Acenaphthene	ug/L	21.0	0.0		0.0	9.1	9.0	0.0	9.0	0.0
Acenaphthylene	ug/L	0.0	0.0		0.0	1.0	20.0	0.0	0.0	0.0
Anthracene	ug/L	0.0	0.0		0.0	130.0	0.0	0.0	0.0	0.0
Benzo(a)anthracene	ug/L	5.4	18.0		4.0	450.0	0.0	3.4	20.0	1.2
Benzo(b)fluoranthene	ug/L	8.0	23.0		19.0	200.0	0.0	7.8	10.0	2.5
Benzo(k)fluoranthene	ug/L	2.9	17.0		15.0	24.0	0.0	2.5	10.0	0.9
Benzo(ghi)perylene	ug/L	3.3	16.0		6.4	230.0	0.0	8.0	0.0	2.0
Benzo(a)pyrene	ug/L	4.1	21.0		11.0	250.0	0.0	5.0	9.0	2.5
Chrysene	ug/L	2.9	20.0		7.0	55.0	0.0	0.0	0.0	0.0
Dibenzo(a,h)anthracene	ug/L	3.5	4.0		1.7	57.0	0.0	0.0	0.0	0.8
Fluoranthene	ug/L	5.2	18.0		15.0	130.0	22.0	10.0	10.0	3.7
Fluorene	ug/L	0.0	0.0		0.0	8.5	4.0	0.0	0.0	1.2
Indeno(1,2,3-cd)pyrene	ug/L	3.2	13.0		7.3	57.0	0.0	0.0	0.0	0.0
Naphthalene	ug/L	0.0	0.0		0.0	1.0	0.0	0.0	25.0	0.0
Phenanthrene	ug/L	0.0	7.0		0.0	58.0	8.0	0.0	5.0	0.0
Pyrene	ug/L	0.0	29.0		15.0	110.0	0.0	9.0	11.0	0.0
Total PAH's	ug/L	59.5	187.0		101.4	1770.6	63.0	45.5	108.0	14.8

\* Sample taken on 6/30/97 but water discharged in July (3rd quarter)!!!

\*\* Sample taken on 9/23/97 but water discharged in October (4th quarter)!!!

\*\*\* Quarterly analysis for PAH constituents are not required if there is zero discharge during the quarter.





DOC ID: o:\clom\form\log\fax.log  
Revision #: 1.01  
Revision Date: April 30, 1992

## FACSIMILE TRANSMITTAL LOG

TO: Company Name: Koppers  
Attention: Bill Salavagan  
Phone #: (412) 227-2423

Date: 5/29/92

# of Pages (Including Cover Sheets): 4

TELECOPIER PHONE #: (503) 254-1452

CONFIRMATION PHONE #: (503) 254-1794

COMMENTS: \_\_\_\_\_  
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COFFEY LABORATORIES, INC.

12423 N.E. Whitaker Way • Portland, OR • 97230 • (503) 254-1794 • FAX (503) 254-1452

Koppers001924



Attention: John Oxford  
Koppers Industry  
7540 NW St. Helens Rd.  
Portland, OR 97210

Report Date: May 29, 1992  
Job#: WG-920514J-1  
PO#: VERBAL JOHN  
Project#: None  
Project: NPDES Baseline  
Compliance

SAMPLE INFORMATION:

Date Samples Were Received By Laboratory: 05/14/92

Lab No.	Field Identification	Sample Matrix	Date	Time
1	Tank #4	Waste Water	05-14-92	0930

ANALYTICAL RESULTS ARE ON THE FOLLOWING PAGE(S)

Sincerely,

  
Renee Chauvin  
Technical Director

RJC/lws

This report is for the sole and exclusive use of the above-named client. Samples are retained 15 days from the report date, or until holding time expires. Results pertain only to samples submitted.

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Koppers001925



Job#: WG-920514J-1

Koppers Industry  
Page 3

Analysis Performed: Metals in Wastewater

ANALYSIS	METHOD	DETECTION LIMIT	TANK #4 RESULTS
-----	-----	-----	-----
✓ Antimony	*	0.1 ✓	ND
✓ Arsenic	*	0.1 ✓	ND
✓ Barium	*	0.005	0.017 ✓
✓ Beryllium	*	0.005 ✓	ND
✓ Boron	*	0.1	0.1 ✓
✓ Cadmium	*	0.05 ✓	ND
✓ Chromium	*	0.05 ✓	ND
✓ Cobalt	*	0.05 ✓	ND
✓ Copper	*	0.05 ✓	ND
✓ Iron	*	0.05	5.8 ✓
✓ Lead	*	0.1 ✓	ND
✓ Mercury	EPA 245.1	0.0005 ✓	ND
✓ Molybdenum	*	0.05 ✓	ND
✓ Nickel	*	0.05 ✓	ND
✓ Selenium	*	0.1 ✓	ND
✓ Silver	*	0.05 ✓	ND
✓ Zinc	*	0.05 ✓	ND
✓ Aluminum	*	0.1 ✓	ND
✓ Magnesium	*	0.05	5.5 ✓
✓ Manganese	*	0.01	0.90 ✓
✓ Thallium	*	0.1 ✓	ND
✓ Tin	*	0.1 ✓	ND
✓ Titanium	*	0.05 ✓	ND

Results expressed as mg/L unless otherwise noted.

\* Federal Register, 40 CFR Part 136, Method 200.7, Friday,  
October 26, 1984, Part VIII.

ND means none detected at or above the detection limit listed.

COFFEY LABORATORIES, INC.

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Koppers001926



Attention: John Oxford  
Koppers Industry  
7540 NW St. Helens Rd.  
Portland, OR 97210

Report Date: May 8, 1992  
Job#: WG-920427X-2  
PO#: VERBAL JOHN  
Project#: Permit Renewal Test  
Project: None

SAMPLE INFORMATION:

Date Samples Were Received By Laboratory: 04/27/92

Lab No.	Field Identification	Sample Matrix	Date	Time
1	Grab T-3	Waste Water	04-27-92	1235
2	Grab T-4	Waste Water	04-27-92	1245

ANALYTICAL RESULTS ARE ON THE FOLLOWING PAGE(S)

Sincerely,

Renee Chauvin  
Technical Director

RJC/lws

This report is for the sole and exclusive use of the above-named client. Samples are retained 15 days from the report date, or until holding time expires. Results pertain only to samples submitted.



Job#: WG-920427X-2

Koppers Industry  
Page 2

Analysis Performed: Volatile Organics by EPA Method 624, GC/MS

ANALYTE	DETECTION LIMIT	LABORATORY BLANK	GRAB T-3 RESULTS
Acetone	200	ND	ND
Acetonitrile	200	ND	ND
✓ Acrolein	200 ✓	ND	ND
✓ Acrylonitrile	200 ✓	ND	ND
✓ Benzene	2 ✓	ND	trace, < 2
✓ Bromodichloromethane	0.5 ✓	ND	ND
✓ Bromoform	1 ✓	ND	ND
✓ Bromomethane <i>methyl bromide</i>	10 ✓	ND	ND
2-Butanone (MEK)	200	ND	ND
Carbon disulfide	5	ND	ND
✓ Carbon tetrachloride	0.5 ✓	ND	ND
✓ Chlorobenzene	0.5 ✓	ND	ND
✓ Chloroethane	10 ✓	ND	ND
2-Chloroethylvinyl ether	50 ✓	ND	ND
✓ Chloroform	0.5 ✓	ND	ND
✓ Chloromethane <i>methyl chloride</i>	10 ✓	ND	ND
✓ Dibromochloromethane	0.5 ✓	ND	ND
Dibromomethane	2	ND	ND
✓ Dichlorodifluoromethane	5 ✓	ND	ND
1,2-Dichlorobenzene	1	ND	ND
1,3-Dichlorobenzene	1	ND	ND
1,4-Dichlorobenzene	1	ND	ND
✓ 1,1-Dichloroethane	0.5 ✓	ND	ND
✓ 1,2-Dichloroethane	1 ✓	ND	ND
✓ 1,1-Dichloroethene	0.5 ✓	ND	ND
✓ <i>trans</i> -1,2-Dichloroethene	0.5 ✓	ND	ND
✓ <i>cis</i> -1,2-Dichloroethene	0.5 ✓	ND	ND
✓ 1,2-Dichloropropane	1 ✓	ND	ND
<i>cis</i> -1,3-Dichloropropene	0.5	ND	ND
<i>trans</i> -1,3-Dichloropropene	0.5	ND	ND
1,4-Dioxane	400	ND	ND

Results expressed as µg/L unless otherwise noted.

ND means none detected at or above the detection limit listed.

REPORT CONTINUES

COFFEY LABORATORIES, INC.

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Koppers001928



Job#: WG-920427X-2

Koppers Industry  
Page 3

Analysis Performed: Volatile Organics by EPA Method 624, GC/MS Con't.

ANALYTE	DETECTION LIMIT	LABORATORY BLANK	GRAB T-3 RESULTS
-----	-----	-----	-----
Ethyl acetate	50	ND	ND
✓ Ethyl benzene	1 ✓	ND	ND
2-Hexanone	100	ND	ND
✓ Methylene chloride	2 ✓	ND	ND
4-Methyl-2-pentanone	20	ND	ND
Styrene	5	ND	ND
1,1,1,2-Tetrachloroethane	0.5	ND	ND
✓ 1,1,2,2-Tetrachloroethane	0.5 ✓	ND	ND
✓ Tetrachloroethene	0.5 ✓	ND	trace, < 0.5
✓ Toluene	0.5 ✓	ND	1
✓ 1,1,1-Trichloroethane	0.5 ✓	ND	ND
✓ 1,1,2-Trichloroethane	0.5 ✓	ND	ND
✓ Trichloroethene	0.5 ✓	ND	ND
✓ Trichlorofluoromethane	1 ✓	ND	ND
1,2,3-Trichloropropane	1	ND	ND
Vinyl acetate	100	ND	ND
✓ Vinyl chloride	10 ✓	ND	ND
Xylenes (Total)	2	ND	4

Results expressed as µg/L unless otherwise noted.

ND means none detected at or above the detection limit listed.

The less than "<" symbol means none detected at or above the indicated value and represents the detection limit for the method.

REPORT CONTINUES

COFFEY LABORATORIES, INC.

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Koppers001929



Job#: WG-920427X-2

Koppers Industry

Page 4

Analysis Performed: Volatile Organics by EPA Method 624, GC/MS

ANALYTE	DETECTION LIMIT	T-3 DUPLICATE RESULTS	T-4 RESULTS
Acetone	200	ND	ND
Acetonitrile	200	ND	ND
Acrolein	200	ND	ND
Acrylonitrile	200	ND	ND
Benzene	2	trace, < 2	29
Bromodichloromethane	0.5	ND	ND
Bromoform	1	ND	ND
Bromomethane	10	ND	ND
2-Butanone (MEK)	200	ND	ND
Carbon disulfide	5	ND	ND
Carbon tetrachloride	0.5	ND	ND
Chlorobenzene	0.5	ND	ND
Chloroethane	10	ND	ND
2-Chloroethylvinyl ether	50	ND	ND
Chloroform	0.5	ND	ND
Chloromethane	10	ND	ND
Dibromochloromethane	0.5	ND	ND
Dibromomethane	2	ND	ND
Dichlorodifluoromethane	5	ND	ND
1,2-Dichlorobenzene	1	ND	ND
1,3-Dichlorobenzene	1	ND	ND
1,4-Dichlorobenzene	1	ND	ND
1,1-Dichloroethane	0.5	ND	ND
1,2-Dichloroethane	1	ND	ND
1,1-Dichloroethene	0.5	ND	ND
trans-1,2-Dichloroethene	0.5	ND	ND
cis-1,2-Dichloroethene	0.5	ND	ND
1,2-Dichloropropane	1	ND	ND
cis-1,3-Dichloropropene	0.5	ND	ND
trans-1,3-Dichloropropene	0.5	ND	ND
1,4-Dioxane	400	ND	ND

Results expressed as  $\mu\text{g/L}$  unless otherwise noted.

ND means none detected at or above the detection limit listed.

COFFEY LABORATORIES, INC.

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Koppers001930



Job#: WG-920427X-2

Koppers Industry

Page 5

Analysis Performed: Volatile Organics by EPA Method 624, GC/MS Con't.

ANALYTE	DETECTION LIMIT	T-3 DUPLICATE RESULTS	T-4 RESULTS
-----	-----	-----	-----
Ethyl acetate	50	ND	ND
Ethyl benzene	1	ND	1
2-Hexanone	100	ND	ND
Methylene chloride	2	ND	ND
4-Methyl-2-pentanone	20	ND	ND
Styrene	5	ND trace,	< 5
1,1,1,2-Tetrachloroethane	0.5	ND	ND
1,1,2,2-Tetrachloroethane	0.5	ND	ND
Tetrachloroethene	0.5	trace, < 0.5	ND
Toluene	0.5	1	25
1,1,1-Trichloroethane	0.5	ND	ND
1,1,2-Trichloroethane	0.5	ND	ND
Trichloroethene	0.5	ND	ND
Trichlorofluoromethane	1	ND	ND
1,2,3-Trichloropropane	1	ND	ND
Vinyl acetate	100	ND	ND
Vinyl chloride	10	ND	ND
Xylenes (Total)	2	4	22

Results expressed as  $\mu\text{g/L}$  unless otherwise noted.

ND means none detected at or above the detection limit listed.

REPORT CONTINUES

COFFEY LABORATORIES, INC.

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Koppers001931





Koppers Industry  
Page 6

Job#: WG-920427X-2

Analysis Performed: Base Neutrals/Acid Extractables,  
by EPA Method 625, GC/MS

ANALYTE	DETECTION LIMIT	LABORATORY BLANK	T-3 RESULTS
Acenaphthene	1 ✓	ND	trace, < 1
Acenaphthylene	1 ✓	ND	trace, < 1
Aldrin	3 ✓	ND	ND
Anthracene	1 ✓	ND	1
Benzydine	200 ✓	ND	ND
Benzo(a)anthracene	3 ✓	ND	ND
Benzo(b)fluoranthene	5 ✓	ND	ND
Benzo(k)fluoranthene	5 ✓	ND	ND
Benzo(a)pyrene	5 ✓	ND	ND
Benzo(ghi)perylene	5 ✓	ND	ND
alpha-BHC	5 ✓	ND	ND
beta-BHC	5 ✓	ND	ND
delta-BHC	5 ✓	ND	ND
gamma-BHC	5 ✓	ND	ND
Bis(2-chloroethoxy)methane	1 ✓	ND	ND
Bis(2-chloroethyl)ether	1 ✓	ND	ND
Bis(2-chloroisopropyl)ether	1 ✓	ND	ND
Bis(2-ethylhexyl)phthalate	2 ✓	11	ND
4-Bromophenyl phenyl ether	2 ✓	ND	ND
Butyl benzyl phthalate	5 ✓	ND	ND
Chlordane	50 ✓	ND	ND
4-Chloro-3-methylphenol	2 ✓	ND	ND
2-Chloronaphthalene	1 ✓	ND	ND
2-Chlorophenol	1 ✓	ND	ND
4-Chlorophenyl phenyl ether	1 ✓	ND	ND
Chrysene	3 ✓	ND	ND
4,4'-DDD	5 ✓	ND	ND
4,4'-DDE	5 ✓	ND	ND
4,4'-DDT	5 ✓	ND	ND
Dibenzo(a,h)anthracene	5 ✓	ND	ND
Di-n-butylphthalate	1 ✓	ND	ND
1,2-Dichlorobenzene	1 ✓	ND	ND
1,3-Dichlorobenzene	1 ✓	ND	ND
1,4-Dichlorobenzene	1 ✓	ND	ND
3,3'-Dichlorobenzidine	50 ✓	ND	ND
2,4-Dichlorophenol	1 ✓	ND	ND

Results expressed as µg/L unless otherwise noted.

ND means none detected at or above the detection limit listed.

The less than "<" symbol means none detected at or above the indicated value and represents the detection limit for the method.

REPORT CONTINUES

COFFEY LABORATORIES, INC.

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Koppers001932



Koppers Industry  
Page 7

Job#: WG-920427X-2

Analysis Performed: Base Neutrals/Acid Extractables,  
by EPA Method 625, GC/MS

ANALYTE	DETECTION LIMIT	LABORATORY BLANK	T-3 RESULTS
-----	-----	-----	-----
✓ Dieldrin	5 ✓	ND	ND
✓ Diethyl phthalate	5 ✓	ND	ND
✓ 2,4-Dimethylphenol	2 ✓	ND	trace, < 2
✓ Dimethylphthalate	1 ✓	ND	ND
✓ 2,4-Dinitrophenol	50 ✓	ND	ND
✓ 2,4-Dinitrotoluene	5 ✓	ND	ND
✓ 2,6-Dinitrotoluene	5 ✓	ND	ND
✓ Di-n-octylphthalate	2 ✓	3	trace, < 2
✓ Endosulfan sulfate	20 ✓	ND	ND
✓ Endrin aldehyde	100 ✓	ND	ND
✓ Fluoranthene	1 ✓	ND	6
✓ Fluorene	1 ✓	ND	trace, < 1
✓ Heptachlor	2 ✓	ND	ND
✓ Heptachlor epoxide	5 ✓	ND	ND
✓ Hexachlorobenzene	1 ✓	ND	ND
✓ Hexachlorobutadiene	2 ✓	ND	ND
✓ Hexachlorocyclopentadiene	5 ✓	ND	ND
✓ Hexachloroethane	3 ✓	ND	ND
✓ Indeno(1,2,3-cd)pyrene	5 ✓	ND	ND
✓ Isophorone	2 ✓	ND	ND
2-Methyl-4,6-dinitrophenol	10	ND	ND
✓ Naphthalene	1 ✓	ND	ND
✓ Nitrobenzene	2 ✓	ND	ND
✓ 2-Nitrophenol	10 ✓	ND	ND
✓ 4-Nitrophenol	100 ✓	ND	ND
✓ N-Nitrosodimethylamine	50 ✓	ND	ND
✓ N-Nitrosodiphenylamine	5 ✓	ND	ND
✓ N-Nitrosodi-n-propylamine	5 ✓	ND	ND
✓ Pentachlorophenol	5 ✓	ND	trace, < 5
✓ Phenanthrene	1 ✓	ND	ND
✓ Phenol	5 ✓	ND	trace, < 5
✓ Polychlorinated biphenyls	100 ✓	ND	ND
✓ Pyrene	1	ND	1
✓ Toxaphene	100 ✓	ND	ND
✓ 1,2,4-Trichlorobenzene	1 ✓	ND	ND
✓ 2,4,6-Trichlorophenol	2 ✓	ND	ND

Results expressed as µg/L unless otherwise noted.

ND means none detected at or above the detection limit listed.

The less than "<" symbol means none detected at or above the indicated value and represents the detection limit for the method.

REPORT CONTINUES

COFFEY LABORATORIES, INC.

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Koppers001933



Koppers Industry  
Page 9

Job#: WG-920427X-2

Analysis Performed: Base Neutrals/Acid Extractables,  
by EPA Method 625, GC/MS

ANALYTE	DETECTION LIMIT	T-3 DUPLICATE RESULTS	T-4 RESULTS
-----	-----	-----	-----
Dieldrin	5	ND	ND
Diethyl phthalate	5	ND	ND
2,4-Dimethylphenol	2	trace, < 2	trace, < 2
Dimethylphthalate	1	ND	ND
2,4-Dinitrophenol	50	ND	ND
2,4-Dinitrotoluene	5	ND	ND
2,6-Dinitrotoluene	5	ND	ND
Di-n-octylphthalate	2	2	ND
Endosulfan sulfate	20	ND	ND
Endrin aldehyde	100	ND	ND
Fluoranthene	1	5	10
Fluorene	1	trace, < 1	2
Heptachlor	2	ND	ND
Heptachlor epoxide	5	ND	ND
Hexachlorobenzene	1	ND	ND
Hexachlorobutadiene	2	ND	ND
Hexachlorocyclopentadiene	5	ND	ND
Hexachloroethane	3	ND	ND
Indeno(1,2,3-cd)pyrene	5	ND	ND
Isophorone	2	ND	ND
2-Methyl-4,6-dinitrophenol	10	ND	ND
Naphthalene	1	ND	ND
Nitrobenzene	2	ND	ND
2-Nitrophenol	10	ND	ND
4-Nitrophenol	100	ND	ND
N-Nitrosodimethylamine	50	ND	ND
N-Nitrosodiphenylamine	5	ND	ND
N-Nitrosodi-n-propylamine	5	ND	ND
Pentachlorophenol	5	trace, < 5	trace, < 5
Phenanthrene	1	ND	trace, < 1
Phenol	5	trace, < 5	ND
Polychlorinated biphenyls	100	ND	ND
Pyrene	1	1	6
Toxaphene	100	ND	ND
1,2,4-Trichlorobenzene	1	ND	ND
2,4,6-Trichlorophenol	2	ND	ND

Results expressed as µg/L unless otherwise noted.

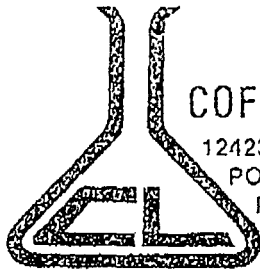
ND means none detected at or above the detection limit listed.

The less than "<" symbol means none detected at or above the indicated value and represents the detection limit for the method.

COFFEY LABORATORIES, INC.

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Koppers001934



COFFEY LABORATORIES, INC.

12423 N.E. WHITAKER WAY  
PORTLAND, OREGON 97230  
PHONE: (503) 254-1794  
FAX: (503) 254-1452

FACSIMILE TRANSMITTAL LOG

TO: Company Name: Koppers  
Attention: Bill Schwaringen  
Phone #: (412) 227-2423

Date: 5/8/92

# of Pages (Including Cover Sheet): 15

TELECOPIER PHONE #: (503) 254-1452 CONFIRMATION PHONE #: (503) 254-1794

COMMENTS: Enclosed: Final O&G/Phenols/PNT report  
Draft TTO's report

I'll fax a typed copy of the latter as  
so as it gets typed.  
Thanks  
Dick



Report Date: May 7, 1992  
Job#: WG-920423M-3  
PO#: VERBAL JOHN  
Project#: None  
Project: None

Attention: John Oxford  
Koppers Industry  
7540 NW St. Helens Rd.  
Portland, OR 97210

**SAMPLE INFORMATION:**

Date Samples Were Received By Laboratory: 04/23/92

Lab No.	Field Identification	Sample Matrix	Date	Time
1	Grab (Api Sump)	Waste Water	04-23-92	1014
2	T-4	Waste Water	04-23-92	1019
3	T-3	Waste Water	04-23-92	1021

ANALYTICAL RESULTS CONTINUE ON THE FOLLOWING PAGE.

Sincerely,

  
Renee Chauvin  
Technical Director

RJC/daj

This report is for the sole and exclusive use of the above-named client. Samples are retained 15 days from the report date, or until holding time expires. Results pertain only to samples submitted.

**COFFEY LABORATORIES, INC.**

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COFFEY LAB \* 08:24 AM \* 05.08.92

Koppers001936



Koppers Industry

Job#: WG-920423M-3

Page 2

PARAMETER	METHOD	DET. LIMITS	T-4 RESULTS	T-3 RESULTS
Oil & Grease	EPA 413.2	0.6	0.6	0.6
Total Phenols	EPA 420.1	0.05	0.06	0.05

Results expressed as mg/L unless otherwise noted.

ANALYSIS PERFORMED: Polynuclear Aromatic Hydrocarbons, by EPA Method 8310, Liquid Chromatography.

COMPOUND	DETECTION LIMIT	LABORATORY BLANK	GRAB (API SUMP)
Acenaphthene	5.0	ND	90
Acenaphthylene	5.0	ND	140
Anthracene	1.0	ND	8
Benzo(a)Anthracene	0.5	ND	8
Benzo(b)Fluoranthene	1.0	ND	ND
Benzo(k)Fluoranthene	1.0	ND	3
Benzo(g,h,i)Perylene	1.0	ND	ND
Benzo(a)Pyrene	1.0	ND	6
Chrysene	0.5	ND	5
Dibenzo(a,h)Anthracene	1.0	ND	ND
Fluoranthene	2.0	ND	ND
Fluorene	3.0	ND	40
Indeno(1,2,3-c,d)Pyrene	1.0	ND	ND
Naphthalene	5.0	ND	ND
Phenanthrene	1.0	ND	120
Pyrene	1.0	ND	60

Results expressed as µg/L unless otherwise noted.

ND means none detected at or above the detection limit listed.

COFFEY LABORATORIES, INC.

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05.08.92 09:24AM \*COFFEY LAB

Koppers001937

Analysis Requested: Volatile organics in water  
by EPA Method 624 GC/MS

Job Label: Koppers WG920427 X1h

Report: 5/7 Analysis: 5/6/92

Analyst: *PAB/CCH* Logbook reference: 251:53

ANALYTE	dl (ug/L)	0427 X1h
Acetone	200	ND
Acetonitrile	200	ND
Acrolein	200	ND
Acrylonitrile	200	ND
Benzene	2	trace, <2
Bromodichloromethane	0.5	ND
Bromoform	1	ND
Bromomethane	10	ND
2-Butanone (MEK)	200	ND
Carbon disulfide	5	ND
Carbon tetrachloride	0.5	ND
Chlorobenzene	0.5	ND
Chloroethane	10	ND
2-Chloroethyl vinyl ether	50	ND
Chloroform	0.5	ND
Chloromethane	10	ND
Dibromochloromethane	0.5	ND
Dibromomethane	2	ND
Dichlorodifluoromethane	5	ND
1,2-Dichlorobenzene	1	ND
1,3-Dichlorobenzene	1	ND
1,4-Dichlorobenzene	1	ND
1,1-Dichloroethane	0.5	ND
1,2-Dichloroethane	1	ND
1,1-Dichloroethene	0.5	ND
cis-1,2-Dichloroethene	0.5	ND
trans-1,2-Dichloroethene	0.5	ND
1,2-Dichloropropene	1	ND
cis-1,3-Dichloropropene	0.5	ND
trans-1,3-Dichloropropene	0.5	ND
1,4-Dioxane	400	ND
Ethyl acetate	50	ND
Ethylbenzene	1	ND
2-Hexanone	100	ND
Methylene chloride	2	ND
4-Methyl-2-pentanone	20	ND
Styrene	5	ND
1,1,1,2-Tetrachloroethane	0.5	ND
1,1,2,2-Tetrachloroethane	0.5	ND
Tetrachloroethane	0.5	trace, <0.5
Toluene	0.5	1
1,1,1-Trichloroethane	0.5	ND
1,1,2-Trichloroethane	0.5	ND
Trichloroethene	0.5	ND
Trichlorofluoromethane	1	ND
1,2,3-Trichloropropene	1	ND
Vinyl acetate	100	ND
Vinyl chloride	10	ND

Analysis Requested: Volatile organics in water  
by EPA Method 624 GC/MS

Job Label: Koppers WG920427 X1h

Report: 5/7 Analysis: 5/6/92

Analyst: *ALB* \CC# Logbook reference: 251:53

0427

T-3

ANALYTE	dl (ug/L)	X1h Duplicate
-----	-----	-----
Acetone	200	ND
Acetonitrile	200	ND
Acrolein	200	ND
Acrylonitrile	200	ND
Benzene	2	trace, <2
Bromodichloromethane	0.5	ND
Bromoform	1	ND
Bromomethane	10	ND
2-Butanone (MEK)	200	ND
Carbon disulfide	5	ND
Carbon tetrachloride	0.5	ND
Chlorobenzene	0.5	ND
Chloroethane	10	ND
2-Chloroethyl vinyl ether	50	ND
Chloroform	0.5	ND
Chloromethane	10	ND
Dibromochloromethane	0.5	ND
Dibromomethane	2	ND
Dichlorodifluoromethane	5	ND
1,2-Dichlorobenzene	1	ND
1,3-Dichlorobenzene	1	ND
1,4-Dichlorobenzene	1	ND
1,1-Dichloroethane	0.5	ND
1,2-Dichloroethane	1	ND
1,1-Dichloroethene	0.5	ND
cis-1,2-Dichloroethene	0.5	ND
trans-1,2-Dichloroethene	0.5	ND
1,2-Dichloropropane	1	ND
cis-1,3-Dichloropropene	0.5	ND
trans-1,3-Dichloropropene	0.5	ND
1,4-Dioxane	400	ND
Ethyl acetate	50	ND
Ethylbenzene	1	ND
2-Hexanone	100	ND
Methylene chloride	2	ND
4-Methyl-2-pentanone	20	ND
Styrene	5	ND
1,1,1,2-Tetrachloroethane	0.5	ND
1,1,2,2-Tetrachloroethane	0.5	ND
Tetrachloroethene	0.5	trace, <0.5
Toluene	0.5	1
1,1,1-Trichloroethane	0.5	ND
1,1,2-Trichloroethane	0.5	ND
Trichloroethene	0.5	ND
Trichlorofluoromethane	1	ND
1,2,3-Trichloropropane	1	ND
Vinyl acetate	100	ND



Analysis Requested: Volatile organics in water  
by EPA Method 624 GC/MS

Job Label: Koppers WG920427 X2h

Report: 5/7 Analysis: 5/6/92

Analyst: *PLS* *cc* *U* Logbook reference: 251:53

0427

X2h

*T-4(4/27/92)*

ANALYTE	dl (ug/L)	
-----	-----	-----
Acetone	200	ND
Acetonitrile	200	ND
Acrolein	200	ND
Acrylonitrile	200	ND
Benzene	2	29
Bromodichloromethane	0.5	ND
Bromoform	1	ND
Bromomethane	10	ND
2-Butanone (MEK)	200	ND
Carbon disulfide	5	ND
Carbon tetrachloride	0.5	ND
Chlorobenzene	0.5	ND
Chloroethane	10	ND
2-Chloroethyl vinyl ether	50	ND
Chloroform	0.5	ND
Chloromethane	10	ND
Dibromochloromethane	0.5	ND
Dibromomethane	2	ND
Dichlorodifluoromethane	5	ND
1,2-Dichlorobenzene	1	ND
1,3-Dichlorobenzene	1	ND
1,4-Dichlorobenzene	1	ND
1,1-Dichloroethane	0.5	ND
1,2-Dichloroethane	1	ND
1,1-Dichloroethane	0.5	ND
cis-1,2-Dichloroethane	0.5	ND
trans-1,2-Dichloroethane	0.5	ND
1,2-Dichloropropane	1	ND
cis-1,3-Dichloropropene	0.5	ND
trans-1,3-Dichloropropene	0.5	ND
1,4-Dioxane	400	ND
Ethyl acetate	50	ND
Ethylbenzene	1	1
2-Hexanone	100	ND
Methylene chloride	2	ND
4-Methyl-2-pentanone	20	ND
Styrene	5	trace, <5
1,1,1,2-Tetrachloroethane	0.5	ND
1,1,2,2-Tetrachloroethane	0.5	ND
Tetrachloroethane	0.5	ND
Toluene	0.5	25
1,1,1-Trichloroethane	0.5	ND
1,1,2-Trichloroethane	0.5	ND
Trichloroethane	0.5	ND
Trichlorofluoromethane	1	ND
1,2,3-Trichloropropane	1	ND
Vinyl acetate	100	ND
Vinyl chloride	10	ND
Volatiles (Total)	2	22

Analysis Requested: Volatile organics in water  
by EPA Method 624 GC/MS

Job Label: Koppers WG920427 X1,2h

Report: 5/7 Analysis: 5/6/92

Analyst: *RLS / CCM* Logbook reference: 251:53

ANALYTE	d1 (ug/L)	Lab Blank
-----	-----	-----
Acetone	200	ND
Acetonitrile	200	ND
Acrolein	200	ND
Acrylonitrile	200	ND
Benzene	2	ND
Bromodichloromethane	0.5	ND
Bromoform	1	ND
Bromomethane	10	ND
2-Butanone (MEK)	200	ND
Carbon disulfide	5	ND
Carbon tetrachloride	0.5	ND
Chlorobenzene	0.5	ND
Chloroethane	10	ND
2-Chloroethyl vinyl ether	50	ND
Chloroform	0.5	ND
Chloromethane	10	ND
Dibromochloromethane	0.5	ND
Dibromomethane	2	ND
Dichlorodifluoromethane	5	ND
1,2-Dichlorobenzene	1	ND
1,3-Dichlorobenzene	1	ND
1,4-Dichlorobenzene	1	ND
1,1-Dichloroethane	0.5	ND
1,2-Dichloroethane	1	ND
1,1-Dichloroethene	0.5	ND
cis-1,2-Dichloroethene	0.5	ND
trans-1,2-Dichloroethene	0.5	ND
1,2-Dichloropropane	1	ND
cis-1,3-Dichloropropane	0.5	ND
trans-1,3-Dichloropropane	0.5	ND
1,4-Dioxane	400	ND
Ethyl acetate	50	ND
Ethylbenzene	1	ND
2-Hexanone	100	ND
Methylene chloride	2	ND
4-Methyl-2-pentanone	20	ND
Styrene	5	ND
1,1,1,2-Tetrachloroethane	0.5	ND
1,1,2,2-Tetrachloroethane	0.5	ND
Tetrachloroethane	0.5	ND
Toluene	0.5	ND
1,1,1-Trichloroethane	0.5	ND
1,1,2-Trichloroethane	0.5	ND
Trichloroethane	0.5	ND
Trichlorofluoromethane	1	ND
1,2,3-Trichloropropane	1	ND
Vinyl acetate	100	ND
Vinyl chloride	10	ND
Xylenes (Total)	2	ND

Analysis Requested: Base, Neutral and Acid Extractables  
by EPA 625, GC/MS.

Job Label: Koppers WG920427X

Dates: Report- 5/08 Analysis- 5/07 Extraction- 5/04/92

Analyst: CCH / PLB CAPREP Logbook reference: 251:53

EPA 625 0427  
ANALYTE dl (ug/L) -X1a

T-3 (4/24/92)

Acenaphthene	1	trace,<1
Acenaphthylene	1	trace,<1
Aldrin	3	ND
Anthracene	1	1
Benzidine	200	ND
Benzo(a)anthracene	3	ND
Benzo(b)fluoranthene	5	ND
Benzo(k)fluoranthene	5	ND
Benzo(a)pyrene	5	ND
Benzo(g,h,i)perylene	5	ND
alpha-BHC	5	ND
beta-BHC	5	ND
delta-BHC	5	ND
gamma-BHC	5	ND
Bis-(2-chloroethoxy)methane	1	ND
Bis-(2-chloroethyl)ether	1	ND
Bis-(2-chloroisopropyl)ether	1	ND
Bis-(2-ethylhexyl)phthalate	2	ND
4-Bromophenyl phenyl ether	2	ND
Butyl benzyl phthalate	5	ND
Chlorodane	50	ND
4-Chloro-3-methylphenol	2	ND
2-Chloronaphthalene	1	ND
2-Chlorophenol	1	ND
4-Chlorophenyl phenyl ether	1	ND
Chrysene	3	ND
4,4'-DDD	5	ND
4,4'-DDE	5	ND
4,4'-DDT	5	ND
Dibenzo(a,h)anthracene	5	ND
Di-n-butylphthalate	1	ND
1,2-Dichlorobenzene	1	ND
1,3-Dichlorobenzene	1	ND
1,4-Dichlorobenzene	1	ND
3,3-Dichlorobenzidine	50	ND
2,4-Dichlorophenol	1	ND

Report continues.

Job Label: Koppers WG920427X

ANALYTE	EPA 625 dl (ug/L)	0427 -X1a T-3
Diieldrin	5	ND
Diethyl phthalate	5	ND
2,4-Dimethylphenol	2	trace,<2
Dimethylphthalate	1	ND
2,4-Dinitrophenol	50	ND
2,4-Dinitrotoluene	5	ND
2,6-Dinitrotoluene	5	ND
Di-n-octylphthalate	2	trace,<2
Endosulfan sulfate	20	ND
Endrin aldehyde	100	ND
Fluoranthene	1	6
Fluorene	1	trace,<1
Heptachlor	2	ND
Heptachlor epoxide	5	ND
Hexachlorobenzene	1	ND
Hexachlorobutadiene	2	ND
Hexachlorocyclopentadiene	5	ND
Hexachloroethane	3	ND
Indeno(1,2,3-c,d)pyrene	5	ND
Isophorone	2	ND
2-Methyl-4,6-dinitrophenol	10	ND
Naphthalene	1	ND
Nitrobenzene	2	ND
2-Nitrophenol	10	ND
4-Nitrophenol	100	ND
N-Nitrosodimethylamine	50	ND
N-Nitrosodiphenylamine	5	ND
N-Nitrosodi-n-propylamine	5	ND
Pentachlorophenol	5	trace,<5
Phenanthrene	1	ND
Phenol	5	trace,<5
Polychlorinated biphenyls	100	ND
Pyrene	1	1
Toxaphene	100	ND
1,2,4-Trichlorobenzene	1	ND
2,4,6-Trichlorophenol	2	ND

Analysis Requested: Base, Neutral and Acid Extractables  
by EPA 625, GC/MS.

Job Label: Koppers WG920427X

Dates: Report- 5/08 Analysis- 5/07 Extraction- 5/04/92

Analyst: C.H. / ALB PREP Logbook reference: 251:53

EPA 625 0427 T-3  
ANALYTE dl (ug/L) -X1a Duplicate  
-----

Acenaphthene	1	trace,<1
Acenaphthylene	1	trace,<1
Aldrin	3	ND
Anthracene	1	1
Benzidine	200	ND
Benzo(a)anthracene	3	ND
Benzo(b)fluoranthene	5	ND
Benzo(k)fluoranthene	5	ND
Benzo(a)pyrene	5	ND
Benzo(g,h,i)perylene	5	ND
alpha-BHC	5	ND
beta-BHC	5	ND
delta-BHC	5	ND
gamma-BHC	5	ND
Bis-(2-chloroethoxy)methane	1	ND
Bis-(2-chloroethyl)ether	1	ND
Bis-(2-chloroisopropyl)ether	1	ND
Bis-(2-ethylhexyl)phthalate	2	41
4-Bromophenyl phenyl ether	2	ND
Butyl benzyl phthalate	5	ND
Chlorodane	50	ND
4-Chloro-3-methylphenol	2	ND
2-Chloronaphthalene	1	ND
2-Chlorophenol	1	ND
4-Chlorophenyl phenyl ether	1	ND
Chrysene	3	ND
4,4'-DDD	5	ND
4,4'-DDE	5	ND
4,4'-DDT	5	ND
Dibenzo(a,h)anthracene	5	ND
Di-n-butylphthalate	1	ND
1,2-Dichlorobenzene	1	ND
1,3-Dichlorobenzene	1	ND
1,4-Dichlorobenzene	1	ND
3,3-Dichlorobenzidine	50	ND
2,4-Dichlorophenol	1	ND

Report continues.

Job Label: Koppers WG920427X

ANALYTE	EPA 625 dl (ug/L)	0427 -X1a Duplicate
-----	-----	-----
Dieldrin	5	ND
Diethyl phthalate	5	ND
2,4-Dimethylphenol	2	trace, <2
Dimethylphthalate	1	ND
2,4-Dinitrophenol	50	ND
2,4-Dinitrotoluene	5	ND
2,6-Dinitrotoluene	5	ND
Di-n-octylphthalate	2	2
Endosulfan sulfate	20	ND
Endrin aldehyde	100	ND
Fluoranthene	1	5
Fluorene	1	trace, <1
Heptachlor	2	ND
Heptachlor epoxide	5	ND
Hexachlorobenzene	1	ND
Hexachlorobutadiene	2	ND
Hexachlorocyclopentadiene	5	ND
Hexachloroethane	3	ND
Indeno(1,2,3-c,d)pyrene	5	ND
Isophorone	2	ND
2-Methyl-4,6-dinitrophenol	10	ND
Naphthalene	1	ND
Nitrobenzene	2	ND
2-Nitrophenol	10	ND
4-Nitrophenol	100	ND
N-Nitrosodimethylamine	50	ND
N-Nitrosodiphenylamine	5	ND
N-Nitrosodi-n-propylamine	5	ND
Pentachlorophenol	5	trace, <5
Phenanthrene	1	ND
Phenol	5	trace, <5
Polychlorinated biphenyls	100	ND
Pyrene	1	1
Toxaphene	100	ND
1,2,4-Trichlorobenzene	1	ND
2,4,6-Trichlorophenol	2	ND

Analysis Requested: Base, Neutral and Acid Extractables  
by EPA 625, GC/MS.

Job Label: Koppers WG920427X

Dates: Report- 5/08 Analysis- 5/07 Extraction- 5/04/92

Analyst: CCH (ALB prep) Logbook reference: 251:53

EPA 625 0427  
dl (ug/L) -X2a

ANALYTE

ANALYTE	EPA 625 dl (ug/L)	0427 -X2a
Acenaphthene	1	1
Acenaphthylene	1	10
Aldrin	3	ND
Anthracene	1	2
Benzidine	200	ND
Benzo(a)anthracene	3	trace, <3
Benzo(b)fluoranthene	5	trace, <5
Benzo(k)fluoranthene	5	trace, <5
Benzo(a)pyrene	5	trace, <5
Benzo(g,h,i)perylene	5	ND
alpha-BHC	5	ND
beta-BHC	5	ND
delta-BHC	5	ND
gamma-BHC	5	ND
Bis-(2-chloroethoxy)methane	1	ND
Bis-(2-chloroethyl)ether	1	ND
Bis-(2-chloroisopropyl)ether	1	ND
Bis-(2-ethylhexyl)phthalate	2	ND
4-Bromophenyl phenyl ether	2	ND
Butyl benzyl phthalate	5	ND
Chlorodane	50	ND
4-Chloro-3-methylphenol	2	ND
2-Chloronaphthalene	1	ND
2-Chlorophenol	1	ND
4-Chlorophenyl phenyl ether	1	ND
Chrysene	3	trace, <3
4,4'-DDD	5	ND
4,4'-DDE	5	ND
4,4'-DDT	5	ND
Dibenzo(a,h)anthracene	5	ND
Di-n-butylphthalate	1	ND
1,2-Dichlorobenzene	1	ND
1,3-Dichlorobenzene	1	ND
1,4-Dichlorobenzene	1	ND
3,3-Dichlorobenzidine	50	ND
2,4-Dichlorophenol	1	ND

T-4 (4/27/92)

Report continues.

Job Label: Koppers WG920427X

ANALYTE	EPA 625 dl (ug/L)	0427 -X2a
Dieldrin	5	ND
Diethyl phthalate	5	ND
2,4-Dimethylphenol	2	trace, <2
Dimethylphthalate	1	ND
2,4-Dinitrophenol	50	ND
2,4-Dinitrotoluene	5	ND
2,6-Dinitrotoluene	5	ND
Di-n-octylphthalate	2	ND
Endosulfan sulfate	20	ND
Endrin aldehyde	100	ND
Fluoranthene	1	10
Fluorene	1	2
Heptachlor	2	ND
Heptachlor epoxide	5	ND
Hexachlorobenzene	1	ND
Hexachlorobutadiene	2	ND
Hexachlorocyclopentadiene	5	ND
Hexachloroethane	3	ND
Indeno(1,2,3-c,d)pyrene	5	ND
Isophorone	2	ND
2-Methyl-4,6-dinitrophenol	10	ND
Naphthalene	1	ND
Nitrobenzene	2	ND
2-Nitrophenol	10	ND
4-Nitrophenol	100	ND
N-Nitrosodimethylamine	50	ND
N-Nitrosodiphenylamine	5	ND
N-Nitrosodi-n-propylamine	5	ND
Pentachlorophenol	5	trace, <5
Phenanthrene	1	trace, <1
Phenol	5	ND
Polychlorinated biphenyls	100	ND
Pyrene	1	6
Toxaphene	100	ND
1,2,4-Trichlorobenzene	1	ND
2,4,6-Trichlorophenol	2	ND

T-4(4/27/92)



Analysis Requested: Base, Neutral and Acid Extractables  
by EPA 625, GC/MS.

Job Label: Koppers WG920427X

Dates: Report- 5/08 Analysis- 5/07 Extraction- 5/04/92

Analyst: CCH / PLS prep Logbook reference: 251:53

ANALYTE	EPA 625 dl (ug/L)	Lab Blank
-----	-----	-----
Acenaphthene	1	ND
Acenaphthylene	1	ND
Aldrin	3	ND
Anthracene	1	ND
Benzidine	200	ND
Benzo(a)anthracene	3	ND
Benzo(b)fluoranthene	5	ND
Benzo(k)fluoranthene	5	ND
Benzo(a)pyrene	5	ND
Benzo(g,h,i)perylene	5	ND
alpha-BHC	5	ND
beta-BHC	5	ND
delta-BHC	5	ND
gamma-BHC	5	ND
Bis-(2-chloroethoxy)methane	1	ND
Bis-(2-chloroethyl)ether	1	ND
Bis-(2-chloroisopropyl)ether	1	ND
Bis-(2-ethylhexyl)phthalate	2	11
4-Bromophenyl phenyl ether	2	ND
Butyl benzyl phthalate	5	ND
Chlorodane	50	ND
4-Chloro-3-methylphenol	2	ND
2-Chloronaphthalene	1	ND
2-Chlorophenol	1	ND
4-Chlorophenyl phenyl ether	1	ND
Chrysene	3	ND
4,4'-DDD	5	ND
4,4'-DDE	5	ND
4,4'-DDT	5	ND
Dibenzo(a,h)anthracene	5	ND
Di-n-butylphthalate	1	ND
1,2-Dichlorobenzene	1	ND
1,3-Dichlorobenzene	1	ND
1,4-Dichlorobenzene	1	ND
3,3-Dichlorobenzidine	50	ND
2,4-Dichlorophenol	1	ND

Report continues.

Job Label: Koppers WG920427X

ANALYTE	EPA 625 dl (ug/L)	Lab Blank
-----	-----	-----
Dieldrin	5	ND
Diethyl phthalate	5	ND
2,4-Dimethylphenol	2	ND
Dimethylphthalate	1	ND
2,4-Dinitrophenol	50	ND
2,4-Dinitrotoluene	5	ND
2,6-Dinitrotoluene	5	ND
Di-n-octylphthalate	2	3
Endosulfan sulfate	20	ND
Endrin aldehyde	100	ND
Fluoranthene	1	ND
Fluorene	1	ND
Heptachlor	2	ND
Heptachlor epoxide	5	ND
Hexachlorobenzene	1	ND
Hexachlorobutadiene	2	ND
Hexachlorocyclopentadiene	5	ND
Hexachloroethane	3	ND
Indeno(1,2,3-c,d)pyrene	5	ND
Isophorone	2	ND
2-Methyl-4,6-dinitrophenol	10	ND
Naphthalene	1	ND
Nitrobenzene	2	ND
2-Nitrophenol	10	ND
4-Nitrophenol	100	ND
N-Nitrosodimethylamine	50	ND
N-Nitrosodiphenylamine	5	ND
N-Nitrosodi-n-propylamine	5	ND
Pentachlorophenol	5	ND
Phenanthrene	1	ND
Phenol	5	ND
Polychlorinated biphenyls	100	ND
Pyrene	1	ND
Toxaphene	100	ND
1,2,4-Trichlorobenzene	1	ND
2,4,6-Trichlorophenol	2	ND

# KOPPERS

7540 N.W. ST. HELENS ROAD  
PORTLAND, OREGON 97210

TO: LARRY FLAHERTY K-1750

COMPANY NAME: K I I

FROM: KOPPERS/PORTLAND

NUMBER OF PAGES TO FOLLOW: (1) ONE

IF YOU DO NOT RECEIVE ALL MATERIAL TRANSMITTED, PLEASE  
CALL US AT: (503) 286-3681

OUR FAX NUMBER IS: (503) 285-2831

SENT BY: JOHN TIME: 11:30 AM DATE: 6-5-89

**INTEROFFICE CORRESPONDENCE**

To: LARRY FLAHERTY

From: JOHN A OXFORD

Location: K-1750

Location: PORTLAND PLANT

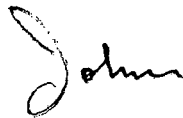
Subject: INACTIVE SLUDGE TANKS

Date: 6-5-89

Per your instructions, Portland reports the following inactive tanks with sludge bottoms.

<u>TANK #</u>	<u>RESIDUE</u>	<u>AMOUNT</u>
#1	TAR, CREO, WATER	37,000 GALLONS
#2	TAR, CREO, WATER	36,000 GALLONS
#18	WATER & CREO	1,000 GALLONS
#19	WATER & CREO	1,000 GALLONS
#65	CREOSOTE	9,000 GALLONS
#66	CREOSOTE	10,000 GALLONS
#101	CREOSOTE	85,000 GALLONS

REGARDS



JOHN

To: Larry Zlobentz  
 Location: K 1750  
 Subject: Inactive Sludge Tanks

From: J. A. Ford  
 Location: Portland  
 Date: 6-5-89

Per your instructions. Portland reports  
 the following inactive tanks with  
 Sludgl Bottoms

<u>Tank #</u>	<u>Residue</u>	<u>Amount</u>
Tank #1	Tor, Creos. Water	37,200 gals
#2	Tor Creos Water	36,000 gals
#18	Water & Creos	<sup>1000</sup> <del>400</del> gals
#19	Water & Creos	<sup>1000</sup> <del>400</del> gals
#65	Creosote	9000 gals
#66	Creosote	<sup>10000</sup> <del>8000</del> gals
#101	Creosote	85,000 gals

Regards,  
 John

# Sludge Report

5-6-89

TANK

1 0-5 1/2 in Bottom Tar & Creos 12,667 gals  
Total 1' 4 1/2 Bottoms, Tar, Creos & Water 36,231 gals

Water = App 10,000

2 2 in Water 5,948 gal

1 Total App. 12 in 35,812 gal

18 6 in Water & Creos 425 gals

19 6 in " " 425 gals

66 1.5T 8 in residue 8960 gals

101 3.5T 8 in residue 77,540 gals

**INTEROFFICE CORRESPONDENCE**

To: ALL PLANT MANAGERS  
Location: All KII Locations  
Subject: Monitoring Wells

From: J. R. Batchelder  
Location: K-1701  
Date: May 10, 1989

In a recent meeting with Beazer Materials people, it was evident that we are experiencing some problems with the maintenance of monitor wells at some of our plant sites. Several have been reported damaged and required significant cost to repair or replace as a result of physical damage. Even though these monitor wells are paid for by BMS as part of their responsibility for pre-existing environmental conditions, it is KII responsibility as the operator of the plants to protect and maintain their integrity. In the future we will have regular inspection responsibilities as Beazer's agent in post-closure care.

We have an ongoing responsibility to be aware of all active monitoring wells on our sites, to protect them, and to report immediately any occurrence or damage to these wells. We will be responsible for the repair of any damaged equipment. The reporting is important because the agency must be advised promptly.

Would each of you please advise the appropriate people at your location including yard supervisors to this end.

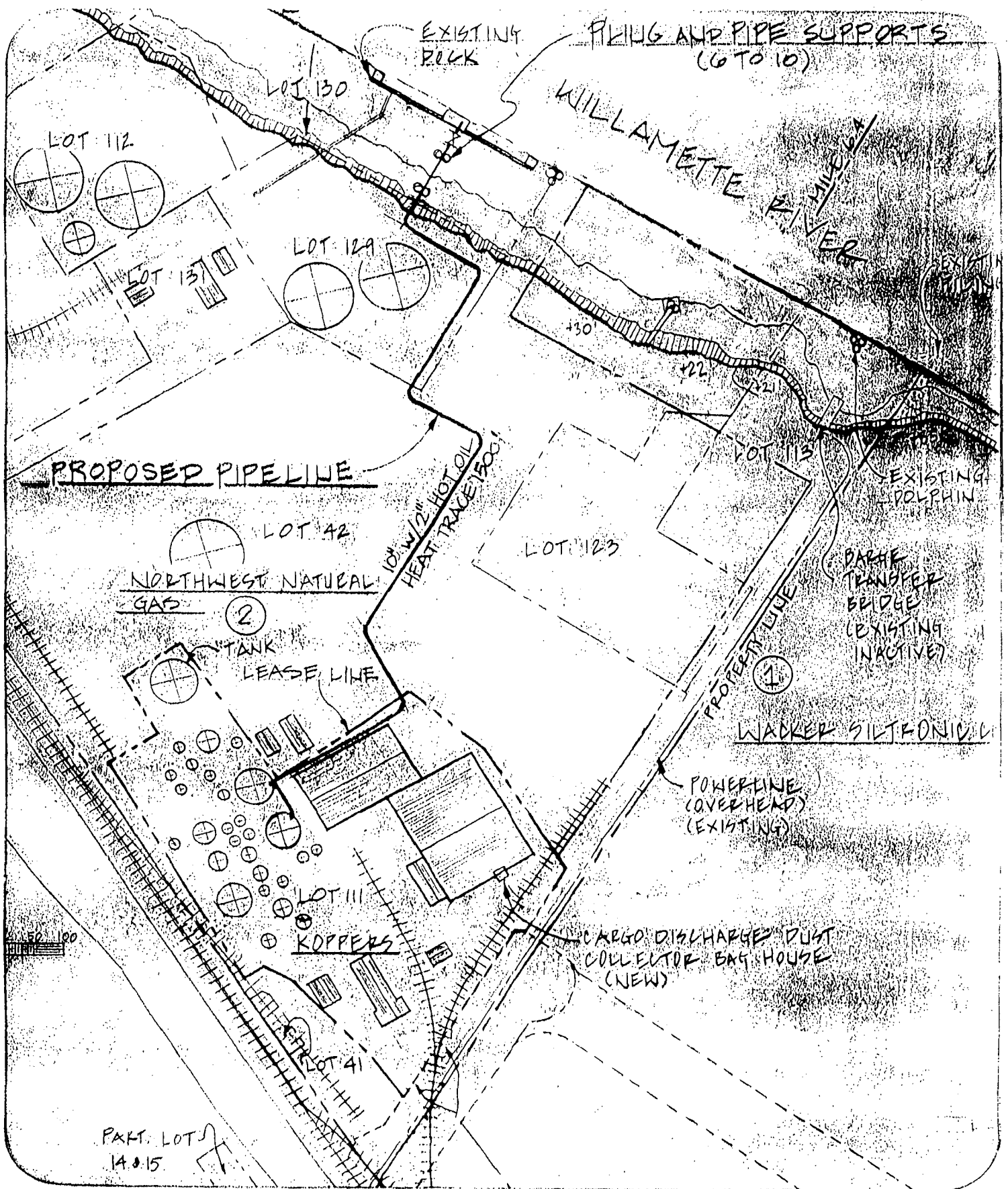
Please let me know if you have any problems with the above.

  
J. R. Batchelder

JRB/avd

cc: R. S. Ohlis  
L. F. Flaherty  
D. N. Sweet  
R. K. Wagner  
R. G. Hamilton

MAY 15 1989



PART. LOTS  
14 & 15



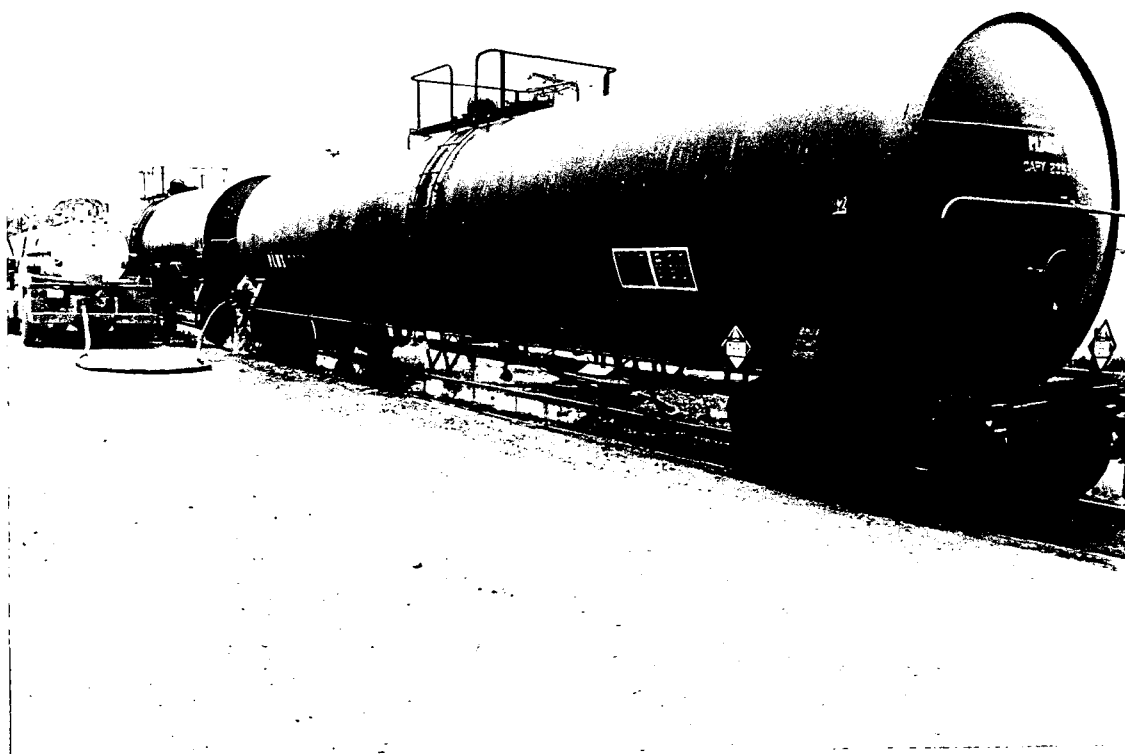


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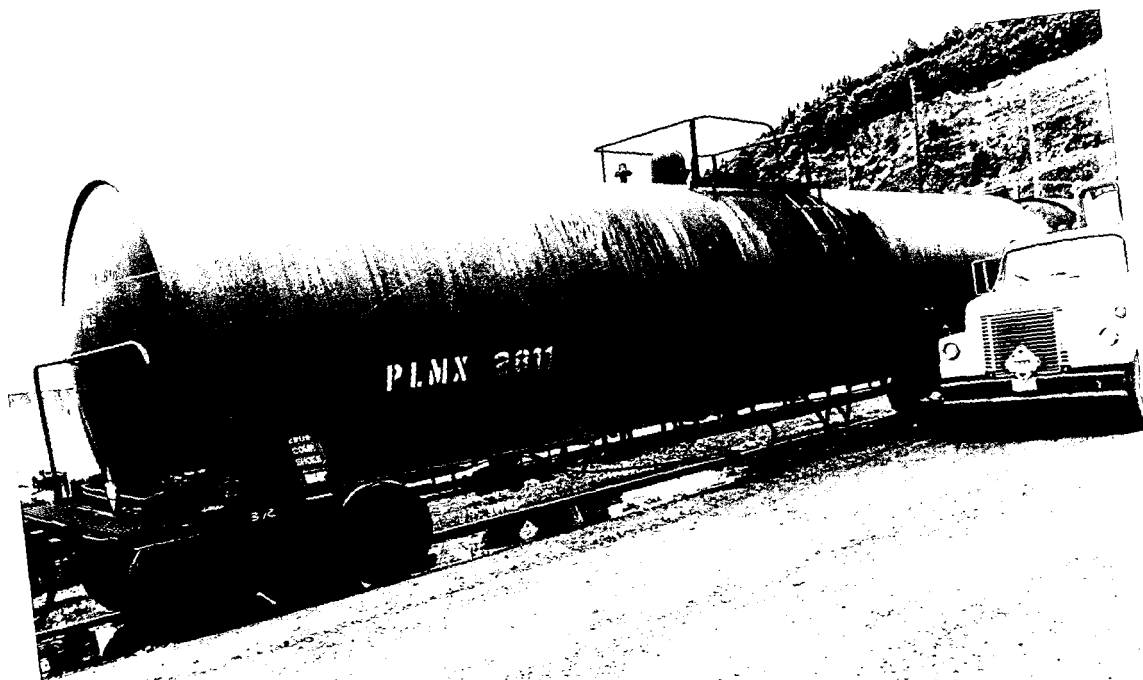
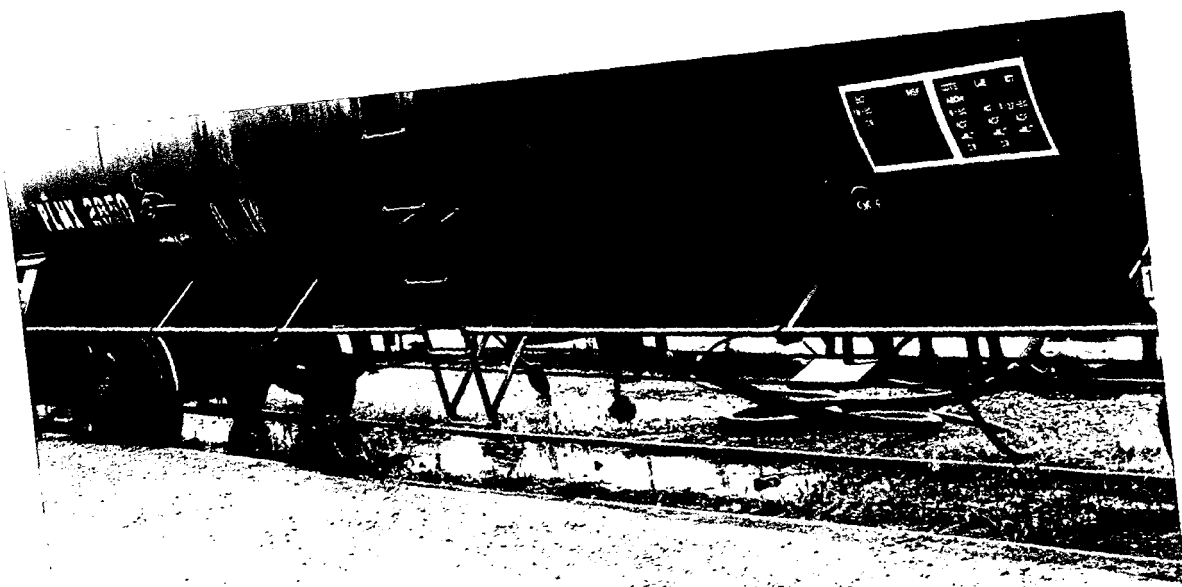


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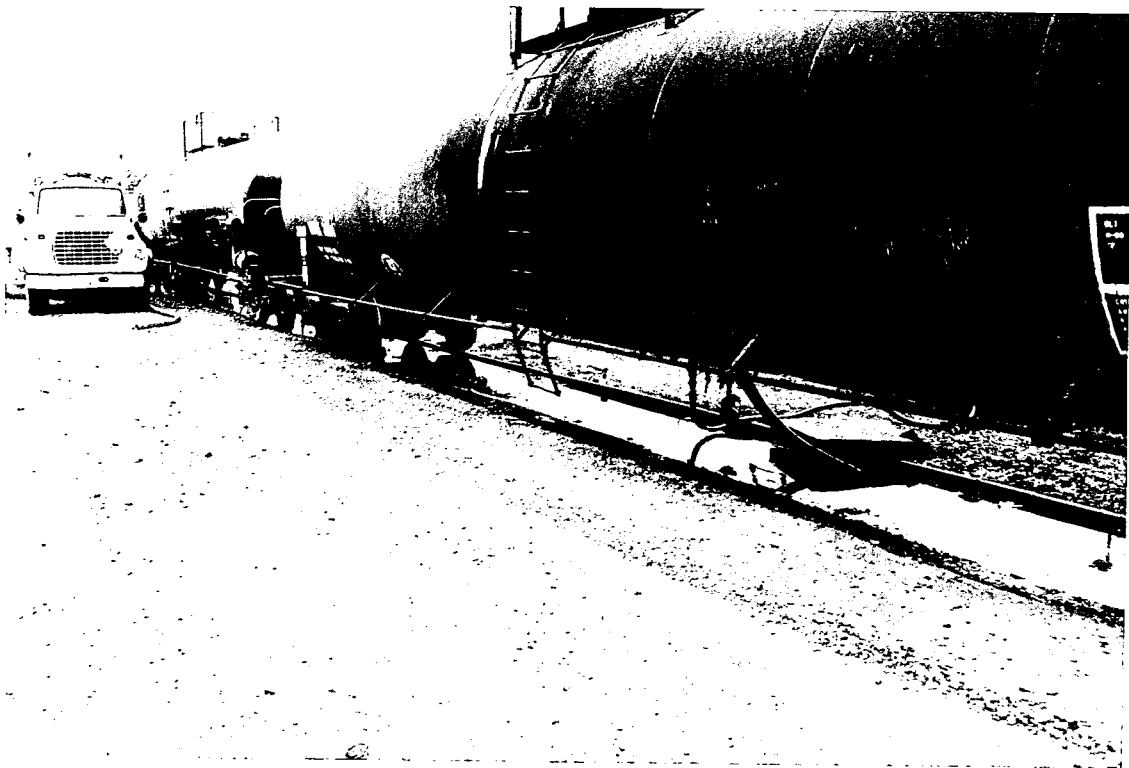


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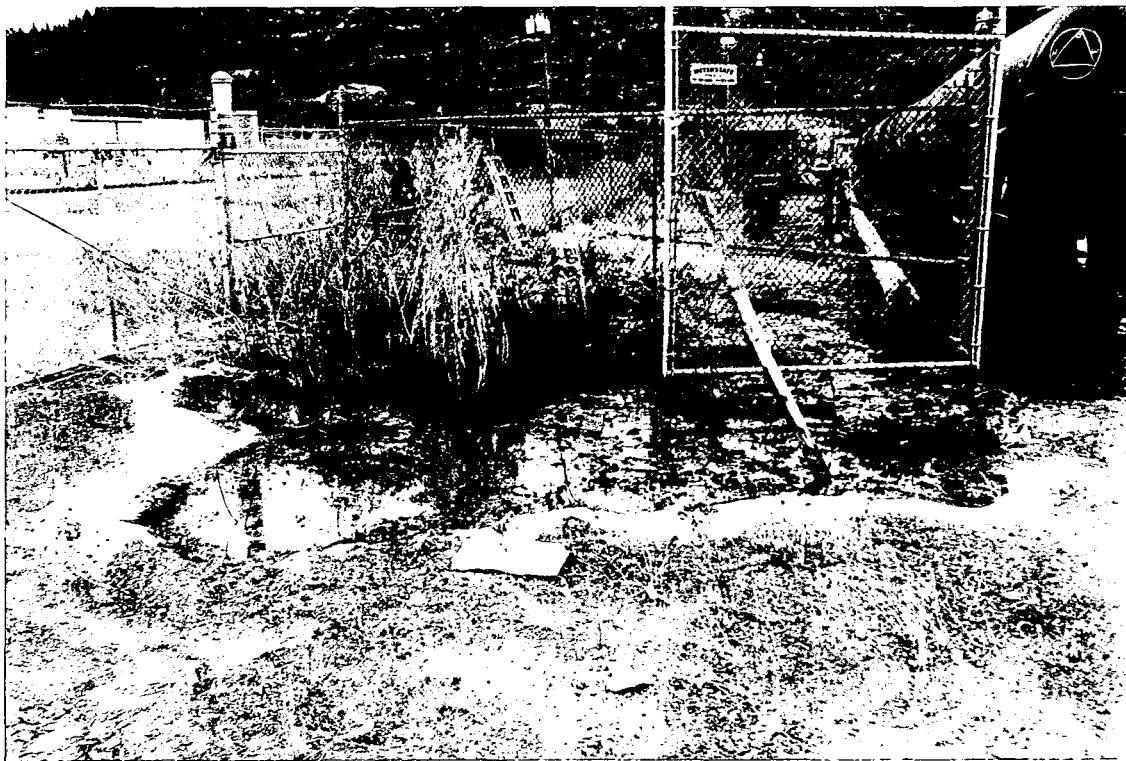


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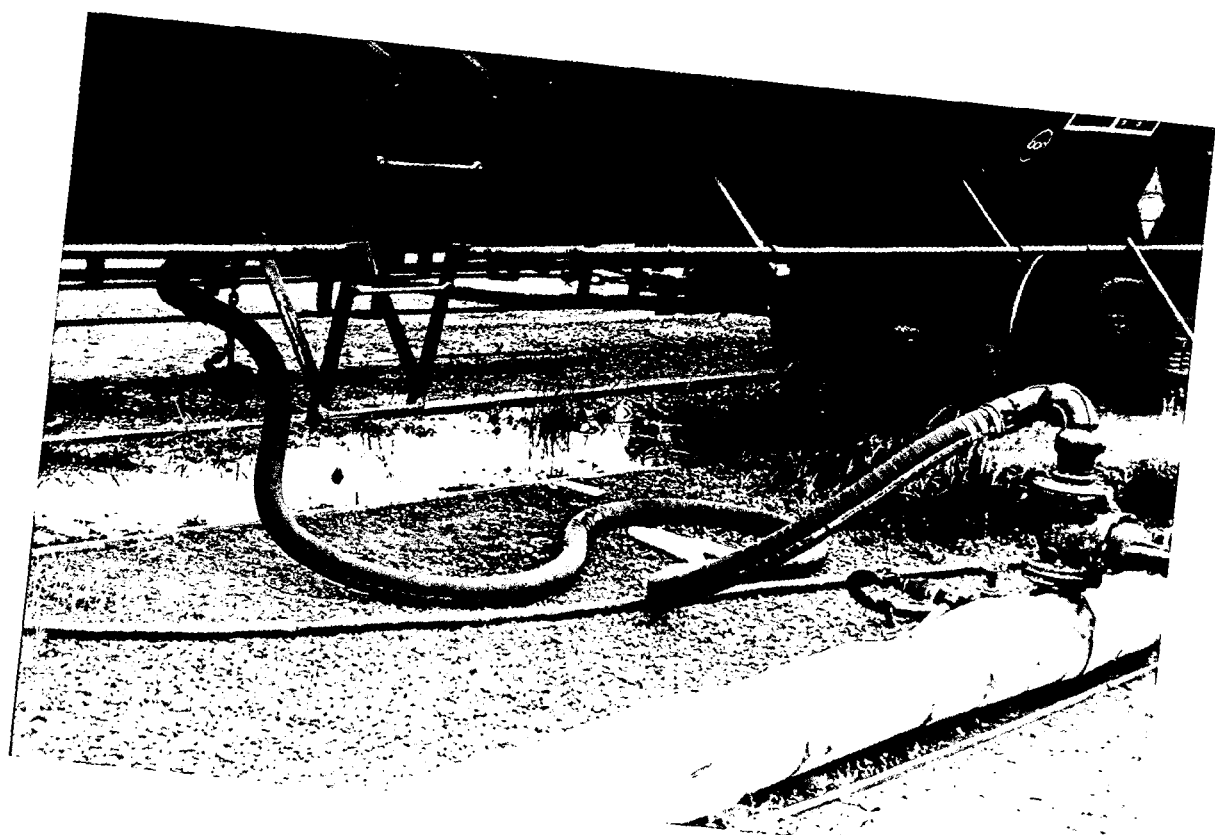
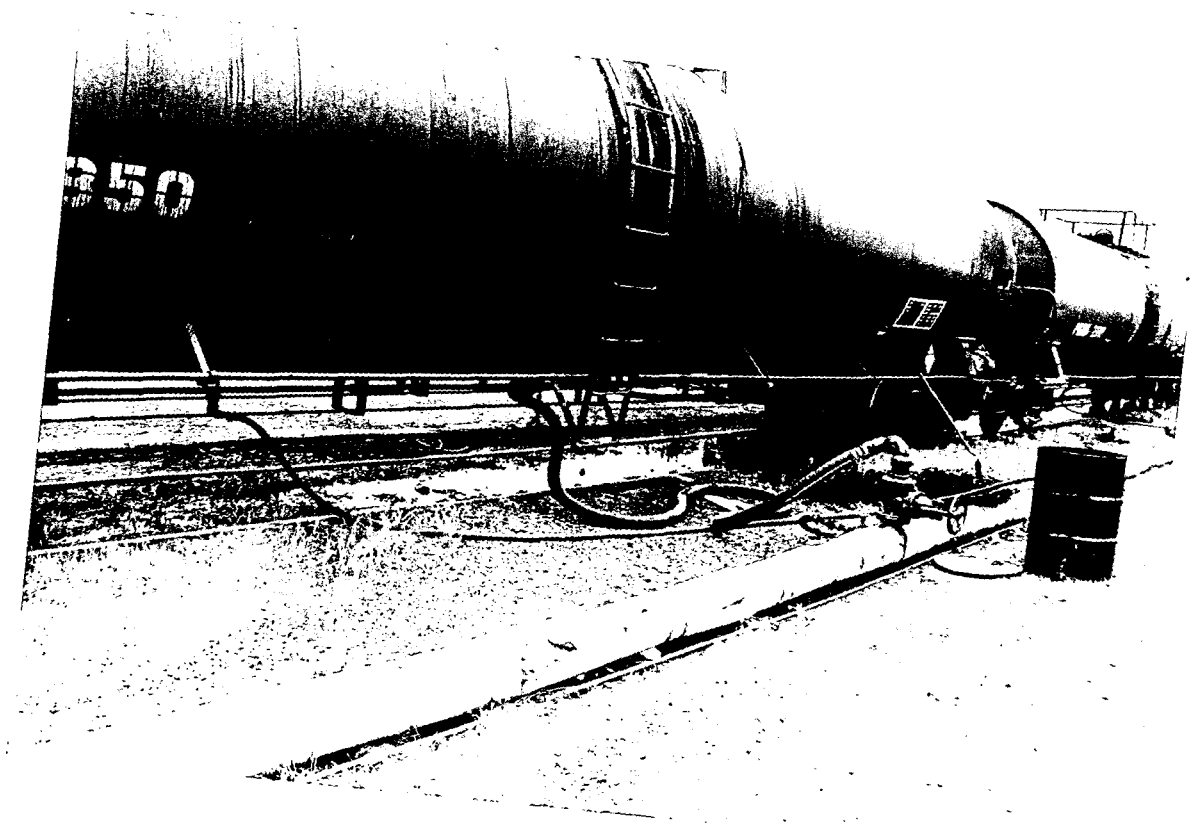


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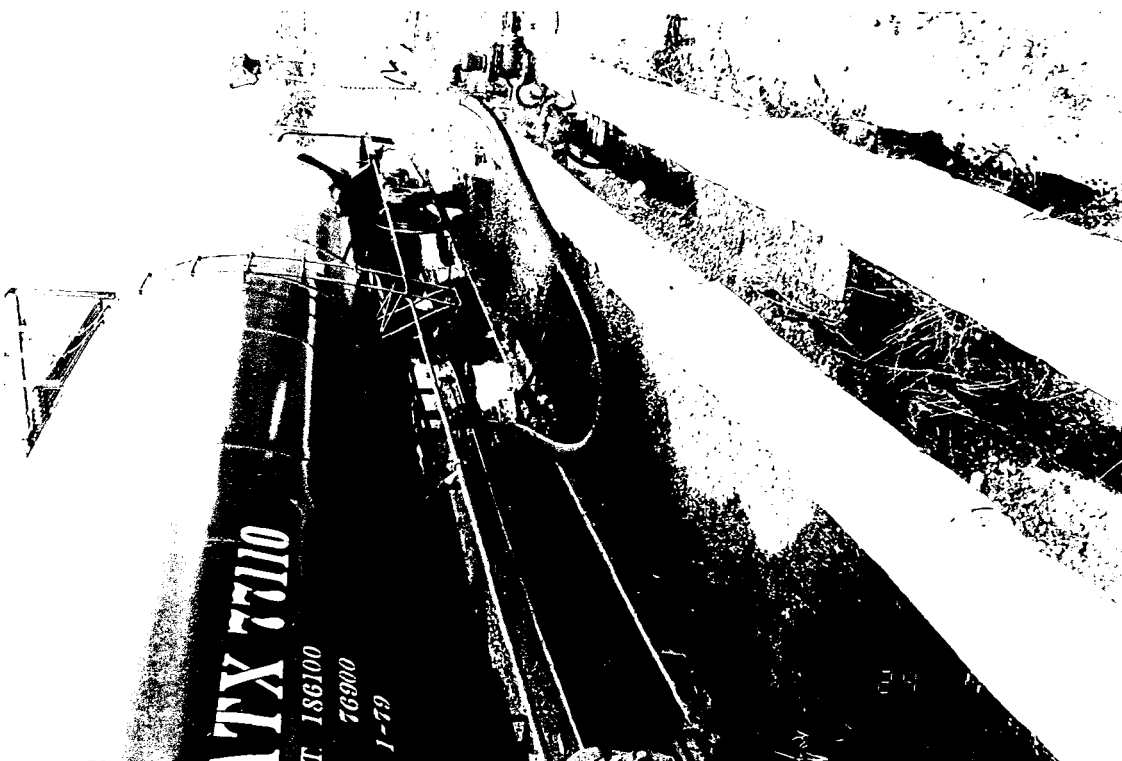
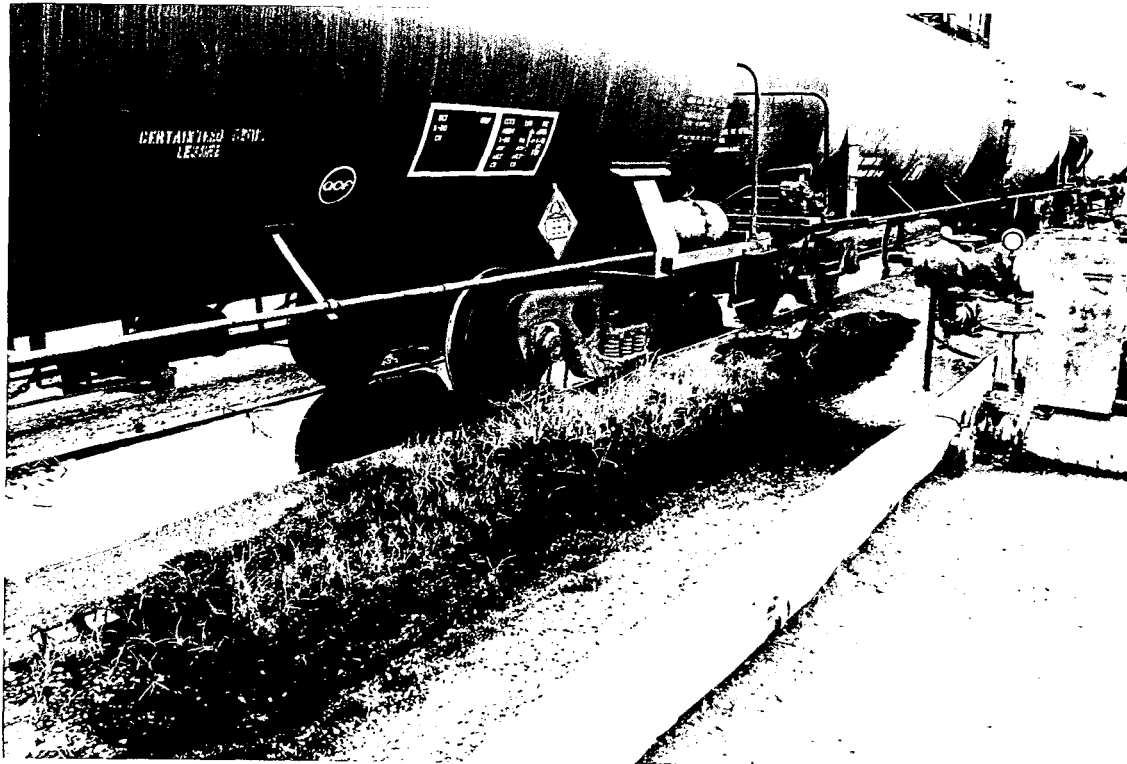


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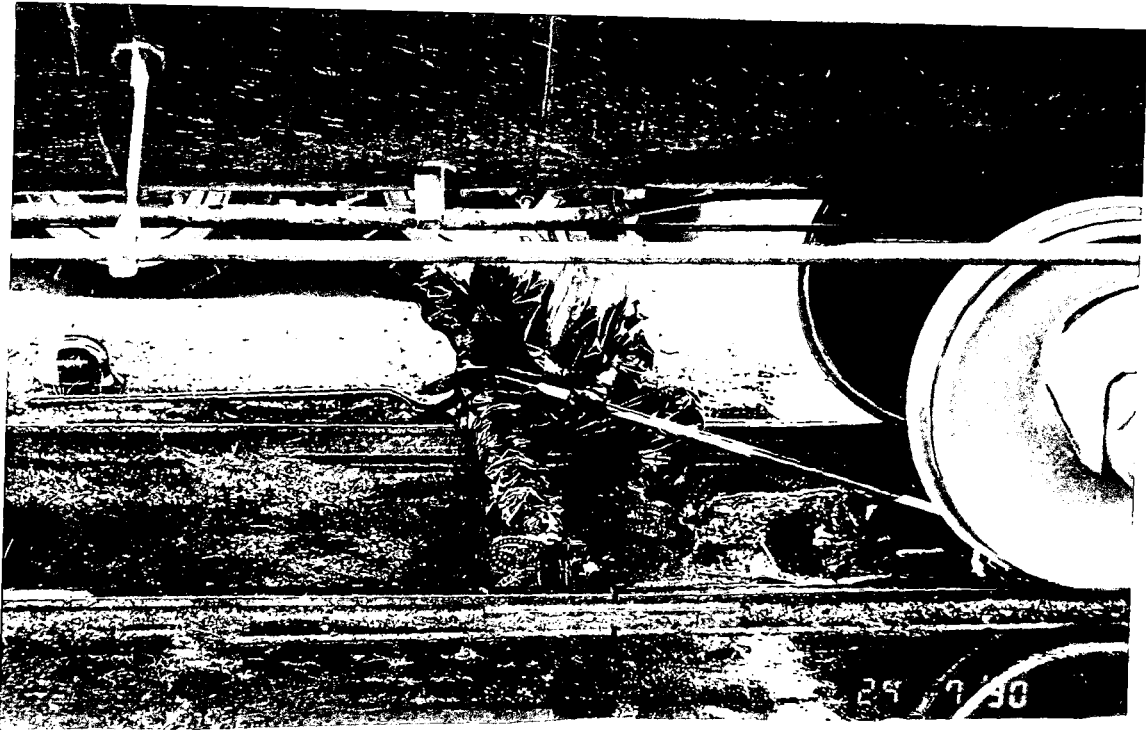


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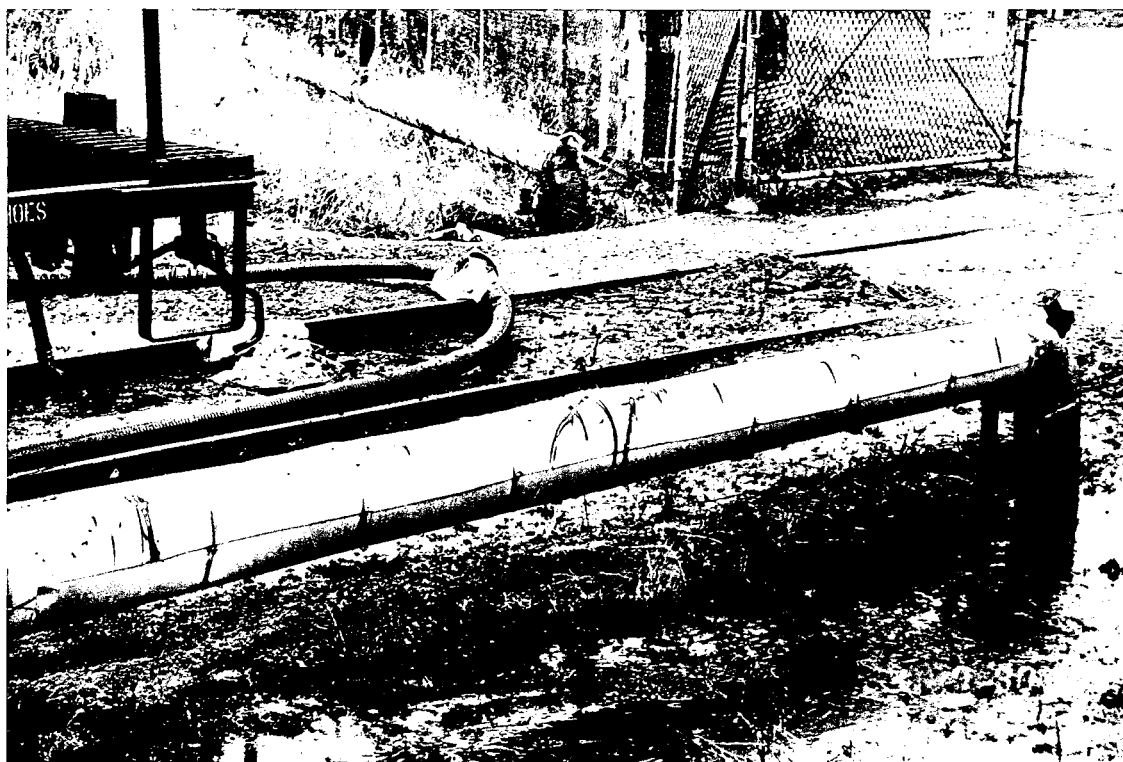


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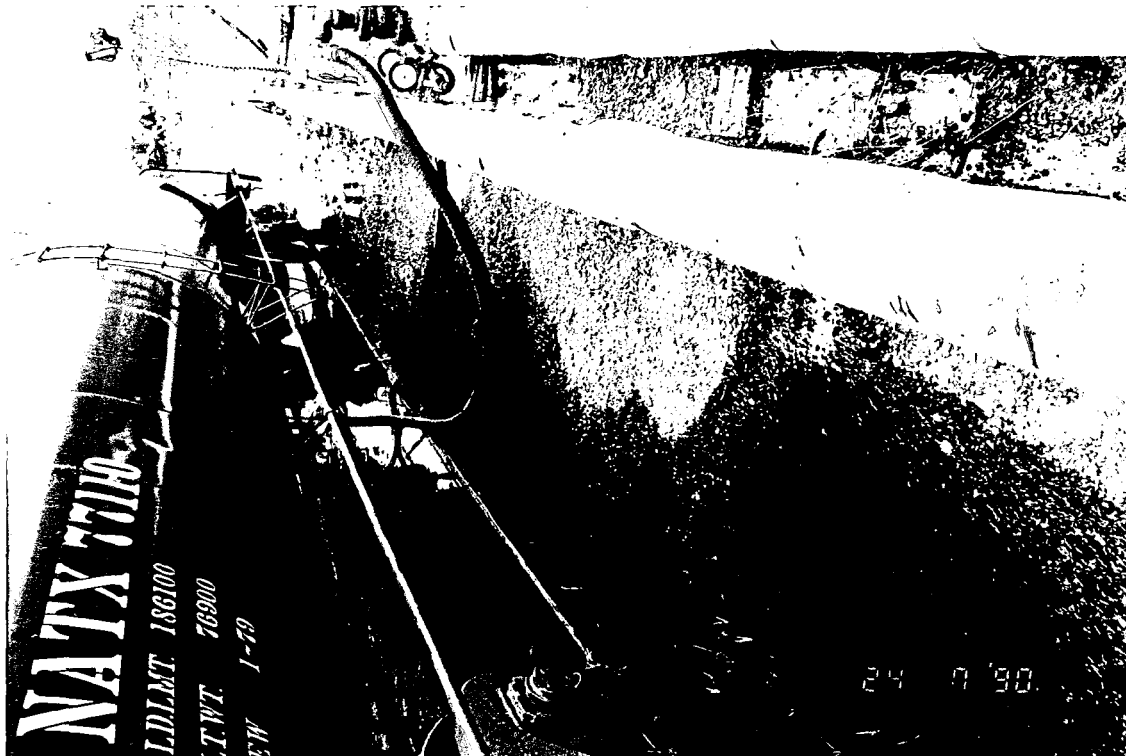


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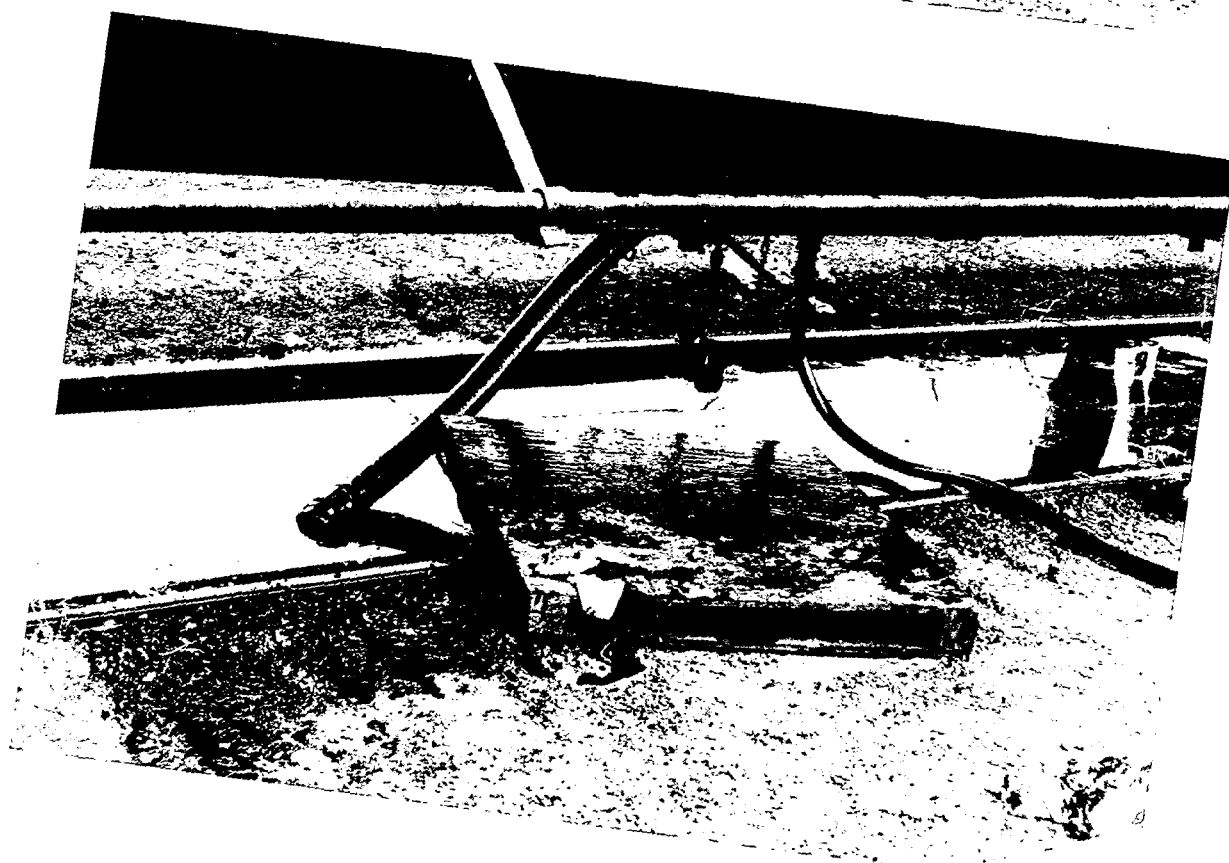


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**KOPPERS  
INDUSTRIES**

**INTEROFFICE CORRESPONDENCE**

**To:** W. Turner  
**Location:** K-1600  
**Subject:** PORTLAND PLANT  
EXPANDED TABLETOP EXERCISE

**From:** John E. Marcinowski  
**Location:** HTC  
**Date:** Nov. 19, 1996

**PARTICIPANTS:**

R. Eaton	Koppers	T. Kandle	Portland Fire Bureau (PFB)
C. Jobe	Koppers	M. Franzen	PFB
E. Bourgeois	Koppers	D. Sholar	PFB
B. Harwood	Koppers	R. Zapp	PFB
D. Stewart	Koppers	J. Klum	PFB
T. J. Turner	Koppers	G. Ennis	PFB
L. Robinson	Koppers	A. Corah	PFB
P. Sigler	HazMat	D. Larson	Foss Environmental
B. Henle	Fire Bureau	J. Peterson	Foss Environmental
G. Nomear	Blueline Trans.	M. Knight	Blueline Trans.
R. Foster	BNSF RR	K. Benson	Wacker Siltronic

(See attached attendance roster.)

**EVALUATORS:** A. Kamerer & J. Marcinowski

The purpose of this EXPANDED TABLETOP EXERCISE, which was held in the Best Western hotel on Nov. 14th, was to:

1. Exercise the Portland plant SPCC plan and allow supervisors and employees the opportunity to mitigate an incident which could cause personal injury, property damage or environmental contamination by following procedures addressed in the "plan."
2. Make revisions to the "plan" based on any weaknesses discovered during the EXERCISE.
3. Involve the above agencies in mitigating the scenario by use of their equipment/training and correcting any problems encountered during the exercise prior to an actual incident.

The exercise took place immediately after a plant tour was conducted by Amos. The format was non-threatening with minimum stress and minimal time constraints placed on the participants.

The scenario for this exercise, developed by Amos and me, was initially addressed by T.J. Turner. The incident was intentionally escalated to exhaust the capabilities of the plant employees and therefore allowing the outside agencies to participate/assist as they would in a real emergency.

Even though the scenario (see attached scenario) was not on KII property, T.J. took charge of the situation and organized the Portland plant employees to initiate the response to the accident/spill based on his knowledge of the SPCC, the plant, creosote and the surrounding topography. However, the incident resulted in a catastrophic spill resulting in contamination of the adjoining waterways (Willamette River), followed by a fire, injured fireman, black plume moving towards the Wacker Siltronic, evacuations/sheltering in place and finally, post spill cleanup operations.

The following essential information was provided/surfaced during the exercise:

1. Plant employees should call ORS and the NRC for any RQ spills.
2. The PFB has an arrival time less than five minutes after being called.
3. The PFB can provide life saving first aid and has a rescue vehicle capable of transporting injured.
4. The local hospitals are supported by an independent ambulance service who will be dispatched to the plant if the "911" operator is informed of an injury.
5. There is a local HazMat team to assist in spill containment. However, for a KII product spill it will be necessary to contact OHM/Foss Environmental for post spill cleanup operations.
6. The HazMat team has a Cameo data base.
7. Foss environmental can respond with supervisors in 15 minutes and equipment; e.g., vacuum truck in 30 minutes.
8. The PFB has a command vehicle which acts as a communication center during the incident.
9. There is one LEPC for the entire state which is not functional.
10. There are several industry mutual aid programs; e.g., MFSA, the Geographical Response Program (GRP) and Clean River Corp. (CRC) for river spills.
11. The commander makes all decisions regarding the incident to include evacuations with input from HazMat and Poison Control Center.
12. The media will be stopped at roadblocks and not allowed on plant property.
13. The PFB has a Public Information Officer to respond to the media if no plant spokesperson available.
14. The PFB has equipment and training to perform confined space and high angle rescues.
15. All PFBs have foam.
16. MSDSs should be provided to the Fire Chief immediately upon arrival if the incident involves any chemicals.
17. MSDSs should also be provided to the ambulance driver or faxed to the hospital if injured KII employee is contaminated with a chemical; e.g., creosote.
18. The Fire Chief calls for Life Flight services if necessary.

Other issues/procedures covered during the scenario are found on the attached checklist.

(3)

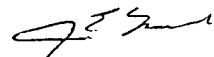
Areas which need further review as a result of this EXERCISE are as follows:

1. The need to place Foss Environmental's phone number (503-283-1150) in SPCC plan since they are a subcontractor for OHM in the Portland area.
2. Listing/posting numbers to adjoining industries; e.g., Wacker, Hoffman Elf Atechem, in the event an incident at Portland plant may impact their business.
3. Investigate membership in local industry mutual aid programs; e.g., MFSA, the Geological Response Program and Clean River Corp. for assistance in river spills when plant implements Marine Terminal Response Plan in the future.
4. The installation of a "wind sock" on plant property to immediately determine wind direction when there any odor calls.
5. Contacting Kirk Benson (Wacker Siltronic) for information on emergency Coordinator I.D.s for immediate access through roadblocks in event of an incident at the plant.
6. Selection of a more secure public weigh scale for tank trucks.

Following the EXERCISE, all participants were invited to a dinner at the Yankee Pot Roast and were presented a Portland plant ball caps to show KIIs appreciation for their time and services.

By copy of this correspondence to Amos, I want to thank him, and his employees for their participation, valuable input, cooperation, and time. All participants indicated the exercise was very informative and challenging. I am sure the immediate availability of well trained and equipped emergency management agencies is reassuring to Amos and his employees.

I look forward to working with Amos on a Functional Drill next year.

  
John E. Marcinowski

c.c.  
B. Allison                      HTC  
R. Collins                      K-1700  
A. Kameroner                  Portland plant  
M. Juba                          HTC  
W. Swearingen                K-1800

# SIGN-IN SHEET

## NORTHWEST TERMINAL

### TABLETOP EXERCISE

#### NOVEMBER 14, 1996

NAME	TITLE	ORGANIZATION	ADDRESS
TERRY Kandle	BATTALION CHIEF	PORT. FIRE	97204 55 SW ASH
Mike FRANZEN	Fire Inspector	PFB	55 SW ASH 97204
CHRISTINE SHOLAR	INTERN - NAZMAT	PFB	55 SW ASH 97204
RANDY ZAPP	LT. ENG. 6	PFB	3660 NW FRONT
Jim KLUM	Deputy Chief 103B	PFB	55 SW ASH
Dean LARSON	Business Dev. Mgr.	Foss Environmental	5420 N. LAGUNA Ave. PORTLAND 97217
John PETERSON	General Mgr.	Foss Environmental	5420 N. LAGUNA PORTLAND 97217
Bill Henle	Hazmat Coord	Fire Bureau	55 S. W. Ash Portland 97204
Chris Jobe	Lead man/Boss	Koppers	7540 NW St. Helens
Bruce Harwood	operator	Koppers	7540 NW St Helens Rd.
Ron Eaton	operator	Koppers	7540 NW St Helens Rd
Spencer Robinson	Office Manager	Koppers	7540 NW St Helens Rd Portland, Or.

# SIGN-IN SHEET

## NORTHWEST TERMINAL

### TABLETOP EXERCISE

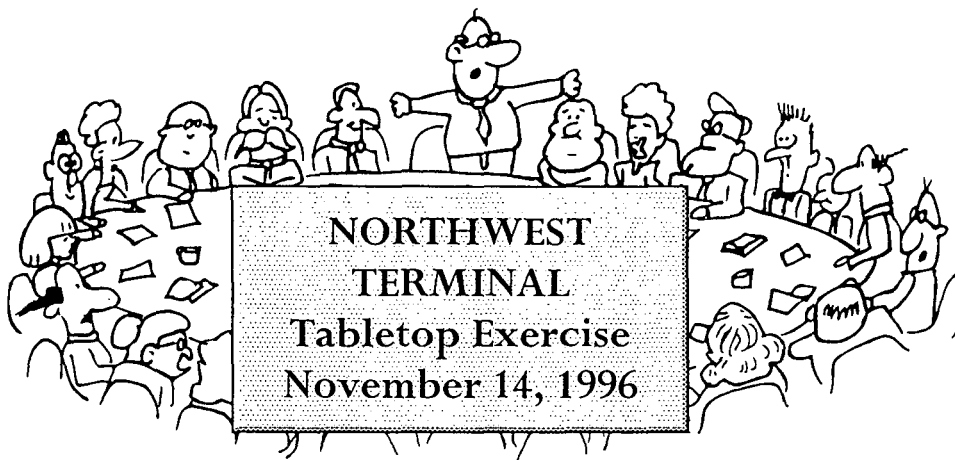
#### NOVEMBER 14, 1996

NAME	TITLE	ORGANIZATION	ADDRESS
Earl Breyer	Millwright	Koppers	7540 NW St Helens Rd
Dennis Stewart	Utility man	Koppers	7540 NW St Helens Rd.
Henry K. Thomas	Training Coord.	Blue Line TRANS.	2606 N NEWARK Portland OR
Mike Knight	SAFETY DIRECTOR	Blue line TRANS	2606 N. NEWARK PORT. ORE
Roger L. Foster	Assistant	BNSF RR	1515W 395th Vanc WA
Kirk C. Benson	ERT COORDINATOR	WACKER SILTRONIC	7200 N.W. FRONT AVE.
Greg Ennis	Lieutenant	P.F.B.	Sta. 22
Perry Sigler	Lieutenant	PFB Hazmat	2915 SE 13th Pl. Portland 97204
T.J. Turner	Gen Foreman	Koppers	7540 NW ST Helens Rd
Alan Corch	Captain	P.F.B.	Sta. 22



# KOPPERS INDUSTRIES

## NORTHWEST TERMINAL



### AGENDA

INTRODUCTION/ PLANT TOUR	Amos Kamerer	1:00 pm - 2:00 pm
TABLETOP EXERCISE	John Marcinowski	2:00 pm - 4:00 pm
CRITIQUE	John Marcinowski	4:00 pm - 4:30 pm
DINNER		5:00 pm

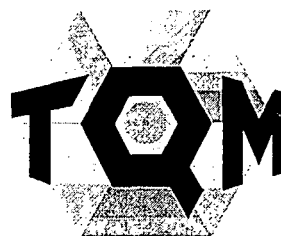


Figure 1

## **TABLETOP EXERCISE**

**A TABLETOP EXERCISE is an activity in which personnel with emergency management responsibilities are gathered together informally, usually in a conference room, to discuss actions to be taken during an emergency based upon the emergency plan and their standard operating procedures/contingency plans. The primary characteristic is a verbal "walk through" of a response to an emergency situation. The TABLETOP EXERCISE is designed to elicit constructive discussion by the participants, without time constraints, as they examine and resolve problems based on the emergency plan. Plus, drills and exercises are the best means of reviewing weaknesses in the plans and procedures before emergencies actually occur.**

**The purpose of a TABLETOP EXERCISE is to have participants practice problem-solving and resolve questions of coordination and assignment of responsibilities in a non-threatening format, under minimum stress. TABLETOP EXERCISES can be used in preparation for a FUNCTIONAL DRILL or FULL-SCALE EXERCISE.**

**TABLETOP EXERCISES typically involve a limited demonstration of operational response and/or internal coordination activities. In many cases, responders from only a few local agencies are involved. Post-exercise evaluation activities are usually limited to an oral critique session during which recommendations for improvement are discussed with and among participants. A brief written report summarizing exercise activities and recommendations for improvement may also be prepared. The use of evaluators who are not players in the exercise can help identify opportunities for improvement.**

# **NORTHWEST TERMINAL TABLETOP EXERCISE**

## **SCENARIO**

***A tank truck of creosote is heading for the weigh scales prior to leaving the plant for Taylor Lumber. At the intersection of the railroad tracks, just outside the plant, the truck collides with the BN Railroad switch engine. The truck was knocked over on its side and pushed down the tracks stopping in front of the Northwest Gas Co. Plant. Creosote is leaking from the trailer .***

**WHAT DO YOU DO?**

**DAY:**

**TIME:**

**WEATHER:**



~~26~~ RIVER

## NORTHWEST TERMINAL

**Wacker  
Siltronic**

## Hoffman Construction

St. Helens Rd.

## **PORTLAND TABLETOP EXERCISE**

11-14-96

### **CHECK LIST**

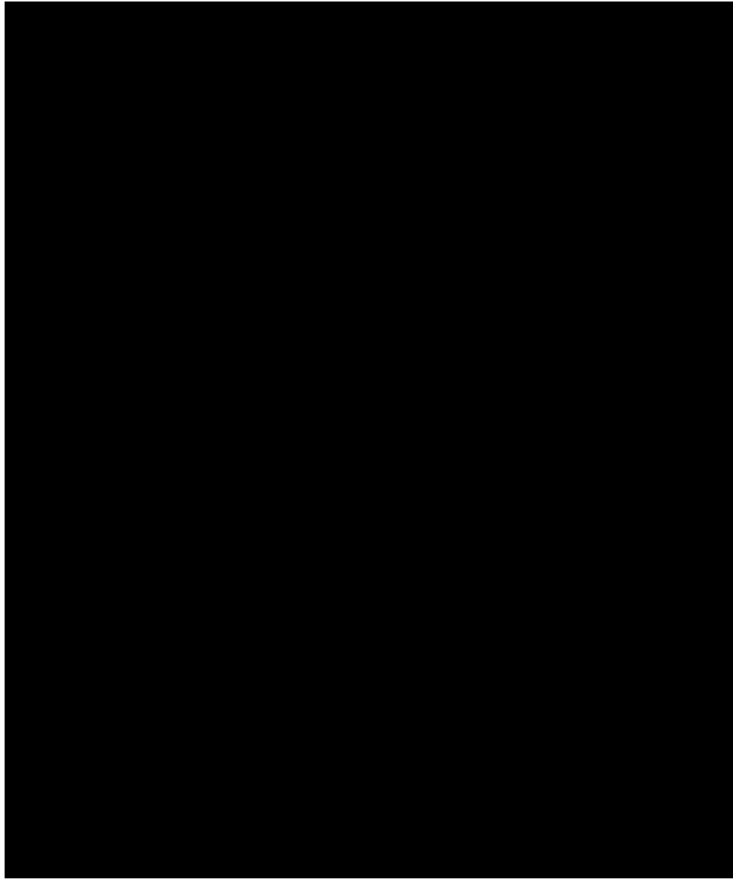
- 1 How do you obtain internal help?
- 2 Is there an alarm system?
- 3 How do you respond to alarm system?
- 4 Who is in charge when Amos is not at plant?
- 5 Do you need to notify fire dept.? how?
- 6 When do you implement Portland SPCC plan?
- 7 What are EC responsibilities?
- 8 What is most important objective - (spill containment) where are booms?
- 9 What is Northwest Natural Gas's role
- 10 Does NNG have a SPCC plan
- 11 Do we notify Wacker Siltronic Corp/Hoffman Construction.?
- 12 What is BN's role?
- 13 How are they notified - if after hours?
- 14 How do you stop flow of creosote?
- 15 What are physical (flow) characteristics of creosote at ? temp.
- 16 What is flash point and RQ for creosote?
- 17 How do you prevent spill from leaving KII property?
18. Is there a hazmat team in the area?
- 19 Who can drive heavy equipment to build dikes?
- 20 When do you call NRE/DAR/LEPC/FOSS?
- 21 What do you do during high waters/creosote moving towards outfall/creek to Willamette river?
- 22 What is Coast Guards role?
- 23 What are office personnel responsibilities during emergency?
- 24 What if a fire is accidentally started while moving tank truck?

### **Show Youngstown Fire Video**

- 25 When do you notify fire dept.? (SPCC indicates call 911-FIRE?)
- 26 How do you notify fire dept.?
- 27 What happens at dispatchers end?
- 28 Who are back ups and their response times?
- 29 Is plant trained in incipient fire fighting?
- 30 When and how do you contact key personnel?
- 31 What is role of kii when there is a fire?
- 32 What is plant managers/ec's briefing to fire chief?
- 33 What if road is blocked (St. Helens)?
- 34 Does fire dept. carry MSDSs?
- 35 Are MSDSs available after hours? (Knox storage cabinet)
- 36 Where is command post set up - maps, blue prints, msdss?
- 37 Where is staging area set up?
- 38 Who fights fire and performs rescue?
- 39 How do you extinguish this fire (who has foam)?

(2)

- 40 What information does fire chief need?
- 41 Who notifies LEPC/their role in an emergency?
- 42 Who/when do you notify Pittsburgh and what happens?
- 43 What if fireman has third degree burns/unconscious?
- 44 How do you obtain ambulance?
- 45 Is Life Flight available? Who is authorized to call for life flight?
- 46 How/where do you establish a helipad?
- 47 Does fire chief call life flight to pick up severely burned fireman?
- 48 Does fire chief notify police department?
- 49 What if fireman contaminated with creosote?
- 50 What agency is responsible for decontamination?
- 51 Is decontamination necessary prior to transporting injured?
- 52 Does local hospital have/require msds?
- 53 who controls traffic?
- 54. Where are road blocks set up?
- 55 What are main access routes into plant?
- 56 What are alternate access routes into plant?
- 57 What are inter-agency communication capabilities?
- 58 What if the local media (The Oregonian) arrives at the plant entrance?
- 59 Are media interviews with plant officials or fire chief?
- 60 How do you respond to the media?
- 61 How do police handle media?
- 62 Who is plant spokes person?
- 63 Is company I.D. needed to transition through roadblocks?
- 64 Is there a Cameo\is/plume dispersion modeling?
- 65 How is current weather accessed?
- 66 What if plume moves towards SE or NW?
- 67 What is Health Dept. emergency response capabilities?
- 68 Who executes the population protective actions?
- 69 Availability of toxicologist?
- 70 Do you evacuate population or shelter in place?
- 71 Who has authority for initiating evacuation?
- 72 What are evacuation routes?
- 73 Is there a mutual aid agreement on paper?
- 74 What are EC responsibilities after emergency is over?
- 75 Who will participate in clean up operations
- 76 What are OHM corporations subcontractor (FOSS environmental) capabilities?
- 77. How close is FOSS's manpower/equipment?
- 78. What if toxic release from NW Gas Co. and moving towards KII?
- 79 What is shutdown/evacuation time for KII?
- 80. Does fire dept. have fire plan for Portland plant?





Hand  
Delivered  
9/28/05  
1:45 PM



Koppers Inc.  
Carbon Materials and Chemicals  
7540 NW Saint Helens Road  
Portland, OR 97210-3663  
Tel 503 286 3681  
Fax 503 285 2831  
www.koppers.com

September 28, 2005

Ms. Ann O'Roke  
Source Control  
City of Portland  
Environmental Services  
6543 N Burlington Ave.  
Portland, OR 97203-5452

Ref: Storm Water Discharge

Dear Ms. O'Roke

As follow up to our conversation last week; Koppers has been in the process of renewing our NPDES permit with ODEQ and we are now considering alternatives to direct discharge. As you know we do not have any process water generated and only deal with the collection and disposal of storm water.

The existing NPDES permit has discharge limits, not to exceed, the following:

<u>Parameter</u>	<u>Monthly Ave. - mg/l</u>	<u>Daily Max. - mg/l</u>
Oil and Grease	10	15
Phenols	0.5	0.7

<u>Other parameters</u>	<u>Limitations</u>
pH	Shall be within the range of 6.0 to 9.0
Temperature	Shall not exceed 43.3 C
Polynuclear Aromatic Hydrocarbons	The sum of all PAH compounds detected at levels above the method detection limits shall not exceed 1,000 ug/l

Regarding your request for analytical data on our normal storm water discharges, I am attaching a copy of the EPA forms that were a part of our original NPDES Permit renewal application; Form 3510-1 and Form 2C. Also, as we discussed, Michael Pronold in you office has been getting copies of the Koppers DMR's and the test results, for many years, which will provide you with a history of what the Koppers discharge volume has been, over the years.

So that we can examine all possible options, we are asking Environmental Services if we could discharge this storm water directly to the POTW and if so, what would be the cost for such discharge?

Page 2

So that you can do your calculations, our storage tanks hold about 220,000 gallons of storm water and the discharge system is a 6" diameter pipeline that pumps at about 700 GPM. This system was redesigned and totally upgraded after the flood in 1996, when we had some 4 feet of water in our tank farm, causing damage to some pumps and electrical equipment. As you know, the tank farm is some 6 feet below the grade of the plant and some 12 feet below the grade of Highway 30 and at about only 24 feet above sea level. Thus, it's impossible during major storms to not have the water level rise in the tank farm.

Additionally, in recent years we have completed a major tank cleaning project, and today with the exception of only 4 tanks in the tank farm, all of the other tanks are empty. Flooding in the tank farm would bring about the danger of these empty tanks floating, which could cause major problems for us. Thus, we would need to make sure that in the event of a major storm; we could continue to discharge through-out the event, thus, avoiding damage to our equipment and with tanks floating.

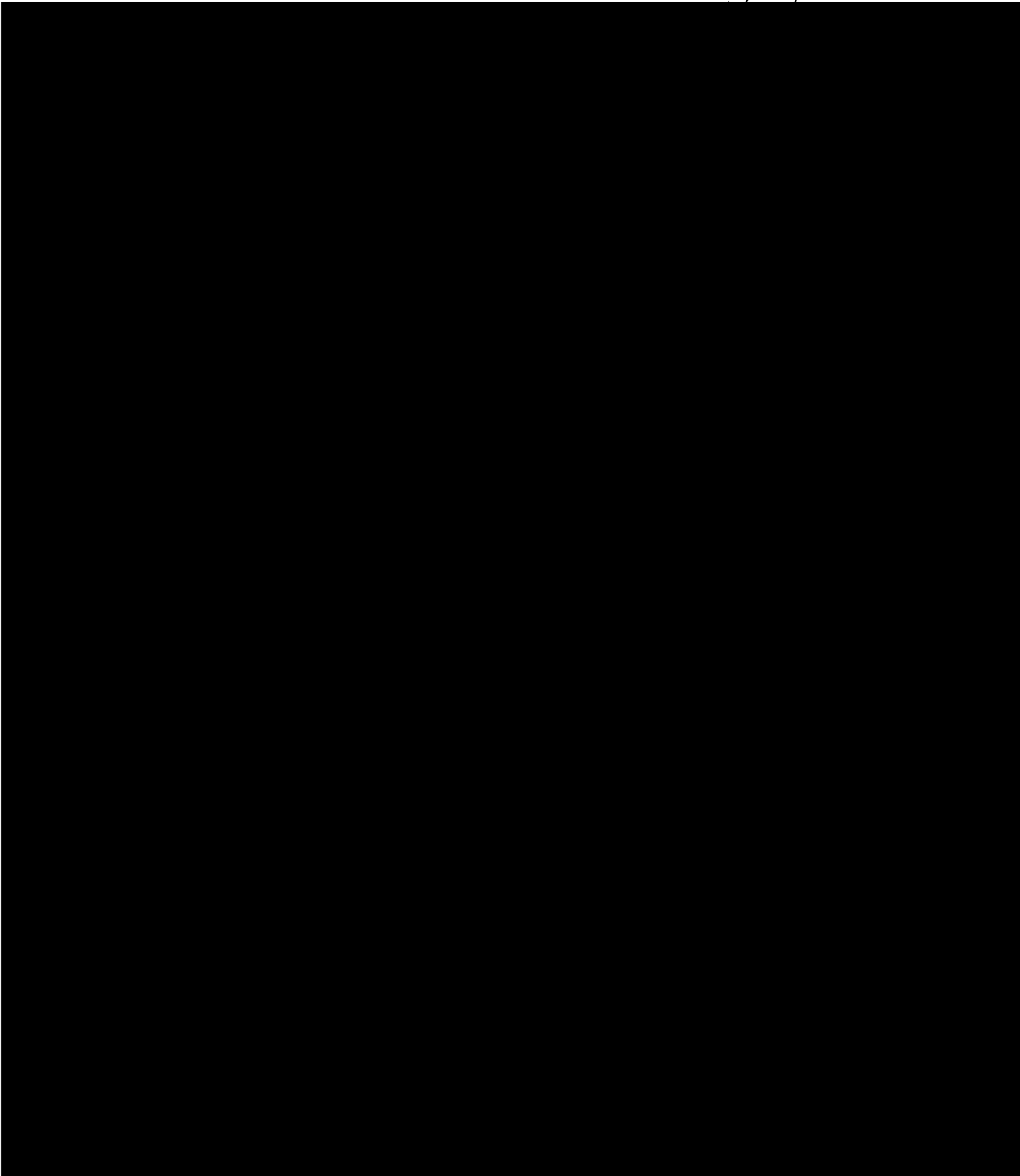
I think this covers just about everything that we discussed, if not please let me know. Also, if you or any of the Environmental Services staff would like to come over for a visit, you are welcome at any time.

Thank you in advance for your considerations in this matter and I look forward to hearing from you, as soon as is possible.

Sincerely,



Amos S. Kamerer





# VISIBLE EMISSION OBSERVATION FORM

No.

COMPANY NAME Koppers Inc.		
STREET ADDRESS 7540 N.W. St. Helens Rd.		
CITY Portland	STATE OR	ZIP 97210
PHONE (KEY CONTACT) 503-286-3681	SOURCE ID NUMBER 26-2930	

PROCESS EQUIPMENT Fume Recovery System	OPERATING MODE Operating hours
CONTROL EQUIPMENT	OPERATING MODE

DESCRIBE EMISSION POINT 22inch diameter stack	
on top of recovery tank.	
HEIGHT ABOVE GROUND LEVEL 25 ft.	HEIGHT RELATIVE TO OBSERVER Start 11ft. End Same
DISTANCE FROM OBSERVER Start 70' End Same	DIRECTION FROM OBSERVER Start NW End Same

DESCRIBE EMISSIONS Start 10' long End Same	
EMISSION COLOR Start White End Same	IF WATER DROPLET PLUME Attached <input type="checkbox"/> Detached <input type="checkbox"/>
POINT IN THE PLUME AT WHICH OPACITY WAS DETERMINED Start 1 ft above stack End Same	

DESCRIBE PLUME BACKGROUND Start Trans Hills End Same	
BACKGROUND COLOR Start GRN End Same	SKY CONDITIONS Start Sunny End Same
WIND SPEED Start 3 mph End Same	WIND DIRECTION Start East End Same
AMBIENT TEMP Start 35°F End 36°F	WET BULB TEMP 29°F
RH, percent 81%	

Stack with Plume	SOURCE LAYOUT SKETCH Draw North Arrow
Sun	
Wind	

ADDITIONAL INFORMATION Liquid Pit & Truck Loading
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OBSERVATION DATE 2-19-08					START TIME 0645	END TIME 0651
SEC MIN	0	15	30	45	COMMENTS	
1	15	10	10	10		
2	10	10	5	5		
3	5	3	15	10		
4	10	10	10	10		
5	5	5	10	10		
6	10	10	5	10		
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OBSERVER'S NAME (PRINT) T.J. Turner Cert.-1517	DATE 2-19-08
OBSERVER'S SIGNATURE 	
ORGANIZATION Koppers Inc.	

CERTIFIED BY Yakima Clean Air Authority	DATE 3-30-08
CONTINUED ON VED FORM NUMBER	

# Property Site Plan

